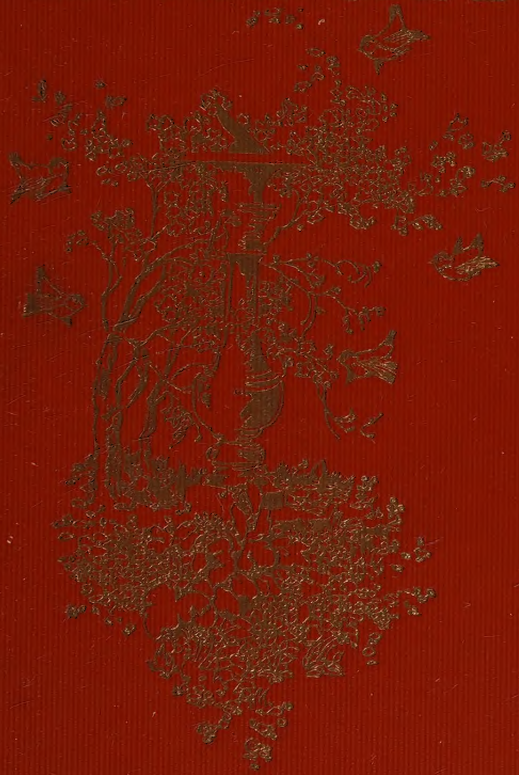
# ROSES IN *THE LITTLE GARDEN*



G. A. STEVENS

# ROSES IN THE LITTLE GARDEN

*THE LITTLE GARDEN SERIES*

*Edited by Mrs. Francis King*

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THE LITTLE GARDEN
By Mrs. Francis King

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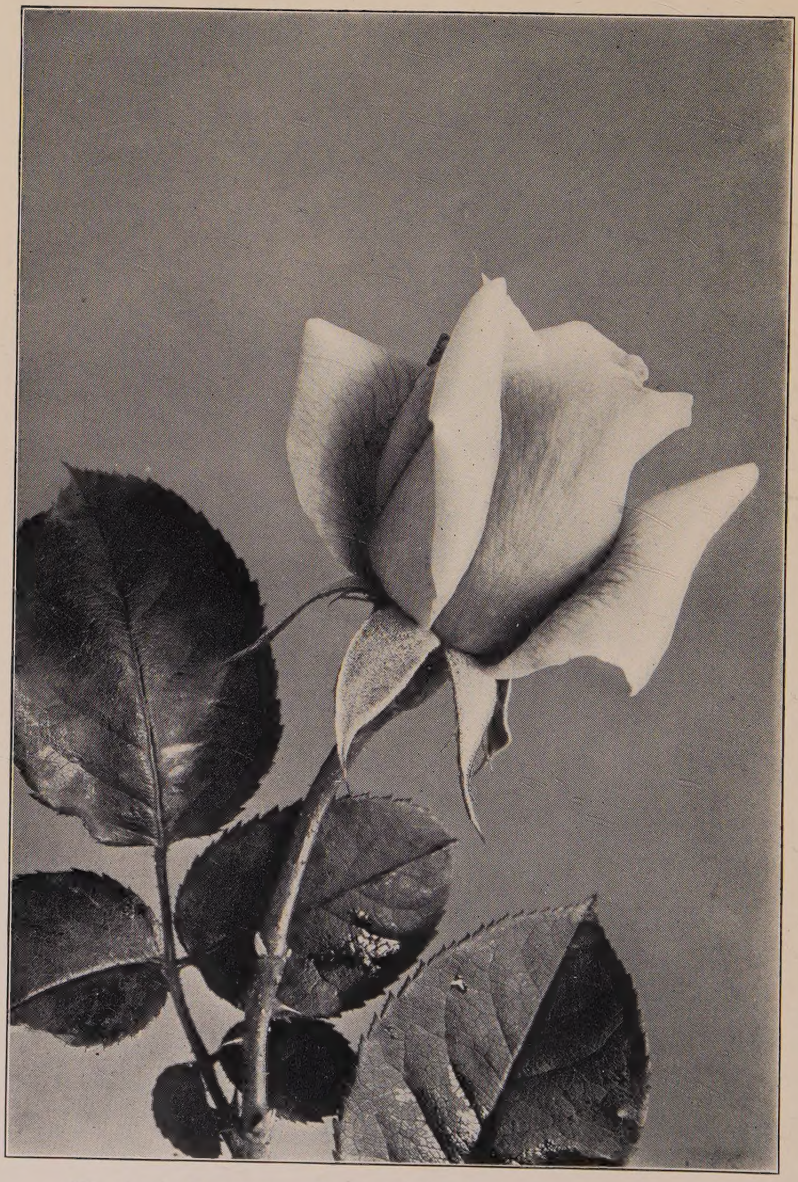

*The lovely luminous-pink Hybrid Tea-Rose, Willowmere*

*THE LITTLE GARDEN SERIES*

# ROSES IN THE LITTLE GARDEN

BY
G. A. STEVENS

*General Editor*
MRS. FRANCIS KING

*With Illustrations*

BOSTON
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# PREFACE

Is it generally known that the great historian, Francis Parkman, was also a great rosarian and a president of the Massachusetts Horticultural Society? In *The Book of Roses*, published by him in 1866, is a list of Hybrid Perpetual roses running to as many as two hundred and sixty-six. In Paul's book on roses, published in 1888, some eight hundred Hybrid Perpetuals were described. Mr. Stevens in the present small volume gives a short selected list of twenty-three Hybrid Perpetuals, and only one of these, Anna de Diesbach, appears in Parkman's list. "To-day," writes Mr. Stevens, "Hybrid Teas have increased in multitudes; they have wiped out all but a gritty remnant of the Hybrid Perpetuals, and the Teas are almost effaced from the earth. When one talks of roses nowadays, Hybrid Teas are always meant unless some other class is definitely mentioned."

Fashions change in roses. The adoration of the rose does not change. Why is the love of this flower so deep in the heart of man? Partly for the beauty and fragrance of the flower, its contrast to all that is ugly and terrible, —

> And while this rose made round her cup,
> The armies died convulsed,—

partly for its associations; but mainly because, whether we realize it or not, the rose is one of the miracles of creation. The more there are who see and feel this miracle, the more will happiness be spread abroad. Therefore a little book like this of Mr. Stevens is not only a treatise on the rose; it is a guide to beauty and to all that this implies.

What is the final proof of value of any book on gardening? Is it not that the reader at once makes notes from such a book, plans to carry out its suggestions, perhaps in garden design, in plant-material, in the care of the garden? This book contains all that is best in advice on roses. There is not one wasted, empty, or sentimental word. Opinions are quite as frank as in Mrs. Edward Harding's *Peonies in the Little Garden*, or in Mrs. Brewster's *The Little Garden for Little Money*. More could not be said. There is too, in *Roses in the Little Garden*, much that is new. All is simple, direct, practical; and the writer's enthusiasm is tremendously infectious. Mr. Stevens made several little rose-gardens of his own in various places when his time for work in these was "the hour or so a day between office duties and dark." It is believed that his book provides the best short-cut yet to successful rose-growing, and it is especially adapted for use where there is space for only a few plants.

Louisa Yeomans King

# FOREWORD

Success with roses depends largely upon the adaptation of varieties to localities. No man can have first-hand knowledge of roses in more than the very few places where he has acquired actual experience with them.

In order to make my own limitations plain, it is well to state that the experience reflected in this book was obtained in eastern Ohio, about one hundred miles directly west of Pittsburgh, in a climate which rigorously bars all but hardy and vigorous roses; in little gardens in Cleveland, where Lake Erie somewhat tempers the seasons; and from intimate contact with a large rose-garden in Harrisburg, where zero weather is almost unknown.

While actual knowledge is the basis of this book, I have freely used the experiences of others, observed in gardens and nurseries; information imparted to me in conversations and by correspondence; facts recorded in the *American Rose Annual*, and in the whole body of rose literature.

I acknowledge my indebtedness to Mrs. Francis King for the inception and supervision of this book; to Miss Bess E. Trump for technical information and assistance in preparing the manuscript; to Bobbink and Atkins and to The Conard-Pyle Company for opportunity to inspect both the old and the very newest roses in their fields. I am especially grateful to Dr. J. Horace McFarland, Editor of the *American Rose Annual*, for close contact with Breeze Hill Garden, for access to his library, for valuable advice and careful criticism of this work, and for the encouragement and the inspiration of personal association.

G. A. S.

*Harrisburg, Pennsylvania*

## CONTENTS


| | | |
|---|---|---|
| I | Using Roses in the Little Garden | 3 |
| II | About Rose Plants | 11 |
| III | Hybrid Perpetual Roses | 18 |
| IV | Tea Roses | 28 |
| V | Hybrid Tea Roses | 37 |
| VI | Polyanthas, Chinas, and Bourbons | 52 |
| VII | Climbing Roses | 61 |
| VIII | Shrubs and Miscellaneous Roses | 70 |
| IX | Preparation of the Soil and Planting | 78 |
| X | Winter Protection and Pruning | 86 |
| XI | Insects and Diseases | 95 |
| XII | Care and Fertilization | 103 |
| XIII | Heresy in Rose-Growing | 112 |

# ILLUSTRATIONS


The Hybrid Tea Rose, Willowmere . . . . *Frontispiece*

A Little Rose Garden . . . . . 6

Hybrid Perpetuals Closely Pruned for Bedding Purposes . 24

The Hybrid Tea Rose, Etoile de Feu . . . . . 38

Ænnchen Müller and Orleans. Polyanthas in the Foreground . . . . . 54

A Hardy Climbing Rose (Tausendschön) . . . . . 66

Rosa Ecæ Used as a Shrub . . . . . 74

A Hybrid Perpetual, Frau Karl Druschki . . . . 92

# ROSES IN THE LITTLE GARDEN

# ROSES IN THE LITTLE GARDEN

## I

## USING ROSES IN THE LITTLE GARDEN

A GARDEN, even a little garden, without roses is unthinkable. The question is not, Shall there be any roses, but Which roses, and how best to use them. To grow them in the little garden is almost always a problem in making the most of limited opportunities. Locations cannot be changed, and neither soil nor other conditions are always suited to roses. As much as possible they must be adapted to the situation. By choosing proper varieties and types to grow, this may be partially accomplished.

The rose, as a garden flower, has been in cultivation since immemorial time. It is guessed that the flower was well known in that far-off, half-mythical day when a mysterious Aryan people migrated out of the East, spreading their language and rude culture over the ancient European world. This is attested by the name, "rose," which is identical or cognate in all European languages. In Asia the Chinese have grown roses for countless centuries, and one of the most beautiful types, the Tea, was developed by them. The pyramids and tombs of Egypt yield us the remains of ancient roses. Antique literature is full of references to them.

Lost in the mist of such ancient times, the ancestral species or originals of many roses have disappeared, or the modern

forms have become so changed that they give no hint to what once they were. Botanists have been hard pressed to determine whether certain old varieties are true species or derivatives from existing or extinct types. On the contrary, a few classes of roses have been recently developed and their specific ancestry is known.

In this book I shall not attempt to describe very many of the several hundred species of roses. Comparatively few of them are in general cultivation, and still fewer have a claim upon the space of the little garden. Nevertheless, several are important and must be dealt with. The reader who would like to go further into the details of rose species and their almost limitless variations will find them quite fully treated in *The Standard Cyclopedia of Horticulture*, by Dr. L. H. Bailey; but for the purpose of discussing how best to use roses in the little garden we may group them roughly into three general classes: bedding roses, climbing roses, and shrubs. This is a very arbitrary classification, and is merely a convenient way of speaking of them. Each of the classes merges somewhat into the others, either in kinship or in use. The problem of selection may be properly deferred until later. It is best first to decide how to use these different classes in the little garden.

The ideal thing, of course, would be to have a little rose-garden within the little garden. It need not be an elaborate affair. A few beds or a border, where roses may be grown free from the interference of other plants, afford all the essential benefits of an extensive garden. For several years, when my gardening was confined to a small back-yard, and my time to the hour or so a day between office duties and dark, I had one bed of roses three feet wide and twelve feet long, in which were twenty-five plants. Perhaps that was too many; but under assiduous care they gave plenty of flowers and untold pleasure.

At present I am familiar with a little rose-garden less than fifteen feet square. Its forty-odd roses are planted in three small beds neatly edged with box-barberry, and two fifths of its area are taken up by grass paths, yet its owner's generous vases are seldom empty. In the smoky section of a great city I occasionally visit another little rose-garden which is merely a bed edged with concrete, squeezed between a fence and a much-used driveway. The flowers it yields are respectable, if not fancy, and a source of enormous pride to the gruff old Manxman who wrests them from so unfavorable an environment. These little gardens are far removed from the elaborate or costly, yet their roses are just as perfect, their perfume just as sweet, and, in proportion, there are just as many of them as in the most extensive and expensively landscaped creation of great wealth.

Space is usually too restricted to permit one to choose an ideal site, but if there is any choice in the matter, the rose-garden should be well drained and well ventilated. The soil should not be soggy or spongy, and the area should not be so closely enclosed that the air is stuffy. Shelter from the prevailing winds is advantageous, and such protection may be afforded by fences, buildings, or distant trees. Sunshine is essential for at least a few hours each day, but light shade is distinctly a benefit in the extremely hot days of midsummer.

The little rose-garden ought to be modestly designed. Elaborate configurations are incongruous and silly within the confines of a little garden. Curved, twisted, angular, or scrolled beds require space and perspective to seem other than ridiculous. It is safest to stick to straight lines or to follow the contour of the ground. A small open space may have a continuous bed around it, or it may be cut up into a series of parallel beds with convenient walks. In irregular plots the rose-garden may

be broken up, putting sections of it here and there as opportunity affords. Rose-beds may nestle in grassy bays in the shrubbery, their outlines following the curve of the border, with a narrow path between.

If a more extensive rose-garden is possible, let it be skillfully planned, not for appearance only but also for facility in working it. There should be open space in the centre and a short, direct way to get there. A sundial is the traditional object with which to furnish such a place; a gazing-globe or a bird-bath may be used; but I think a shallow pool is best for the roses. At all events, plain sod is better than raised structure which obstructs the view or tends to overembellishment.

The beds should be grouped about this centre in a more or less regular fashion. Let them be rectangular, or oblong sections of a circle, — not pie-shaped segments or mangled curlicues. They should be wide enough for at least two rows of plants, and narrow enough so that the middle of each bed can be comfortably reached from the paths. A minimum width of three feet and a maximum of five are about right. I like to arrange rose-beds in pairs of three-foot beds, separated by an eighteen-inch or two-foot path, each pair divided from the next by a main walk three or four feet wide. This twin-bed plan, with its alternating narrow and wide paths, makes a more varied garden than a series of beds and paths of nearly equal width, and actually looks like a rose-garden instead of an expanse of lawn with rose-beds in it. A distinct advantage is that it permits one to crowd a good many more roses into a given space. A few plants will give much pleasure, but it is highly desirable to have as many as possible. It is always a problem how to grow enough of them in the little garden. Bedding roses bloom more or less continuously, but each plant seldom produces more than a few flowers at one time, except at the height

*A Little Rose Garden*

*(Photo by Herbert Cowley — published by courtesy of "House Beautiful")*

of the season; consequently one must have plenty of bushes in order to have plenty of roses.

For the same reason it is advisable to limit the number of varieties. It is better to have several plants each of a few good varieties, that grow evenly and bloom together, than to have scattering plants of many sorts, differing in habits and with little concurrence in bloom. Immeasurably better-looking beds, better flowers, and more of them will result. In the little garden, and especially the little rose-garden, one should grow things well.

On the other hand, there is an immense amount of pleasurable adventure in growing many different kinds; in trying to keep up with the annual procession of new introductions. The point to be considered is whether one wants that sort of good time or whether he wants a good-looking garden and plenty of roses. The collector's garden is always interesting, but it is seldom of unadulterated beauty.

There are few gardens where at least one bed cannot be devoted exclusively to roses; but it is possible that some gardens exist where there is no room for them except among other flowers. Shrub roses and the climbers fit naturally into such situations, but the bedding roses are not so accommodating.

There is a hoary tradition that no other plants should be grown in rose-beds, but, like all traditions, it is being flouted nowadays. English gardeners have grown violas among roses for many years, although usually as a ground-cover under standards — which is the gardener's name for tall, tree-shaped rose-plants. Portulaca, phlox drummondi, annual gypsophila, pansies, and sweet alyssum may be grown among dwarf roses with more or less success. Gypsophila and sweet alyssum are the only things which really look well. The fact is that few annuals or perennials which will grow in rose-beds are sufficiently

inconspicuous. Large, brightly colored flowers like pansies clutter and confuse the bed, spoiling the beauty of the roses without doing justice to themselves; but sweet alyssum is a friendly little thing, and sparingly used, lays its snowy mats among the rose branches without ill effect to either. On the whole, the tradition is pretty sound; and I have come to respect it with reference to bedding roses. They really ought to be kept clear of other plants; even hardy bulbs are difficult to manage.

While mixing other plants in the same bed is bad, few things are more beautiful than a few pink and white roses in front of a group of clear, light-blue delphiniums, thus reversing the gardeners' ancient trick of planting pink climbing roses behind the delphiniums. More startling is the effect of glowing red roses swaying on tall stems before a hierarchal mass of Madonna lilies. But if bedding roses can be arranged against a background of yew or box, there is no lovelier setting in the world. Many similar groupings could be made, finding locations for roses in almost any part of the garden. With a little study of their habits and possibilities, many sturdy roses can be slipped into little bays among the perennials, or against evergreen backgrounds. In every case the ground beneath them should be kept clear, and nothing planted in front of them except the tiniest and flattest of edgings.

Climbing roses demand a place in the little garden. In their infinite variety of forms and multiplicity of uses they afford relief from the monotonous level which used to be the curse of all gardens devoted to roses only. Climbing roses may cover archways or pergolas, marking the entrances or exits from the garden; they may shade an arbor from which to enjoy it, or form pillars to define the main walks or buttress the corner beds; even the fence about the garden may be draped with them. Outside the little rose-garden proper, or in the little

gardens where there can be no such sanctuary, climbing roses are still more valuable. They are lusty enough to maintain themselves in relatively unfavorable positions and to contend successfully with other plants. These qualities and their overwhelming abundance of bloom entitle them to a unique and honorable place in the little garden. For the ingenious gardener they are full of possibilities.

The little garden may take on so many different aspects that it is difficult to make definite suggestions as to how to use shrub roses in it. One fact may be stated: roses are suitable for almost all uses to which other shrubs may be put.

If the little garden is reasonably roomy, if it is planted in a more or less informal manner, the shrub roses with single flowers are more graceful and more in keeping with the other planting. These single-flowered shrubs include the rose species in their natural state, unaltered by the plant-breeder or horticulturist, and a number of hybrids of graceful habit. All of them are interesting in their variously colored flowers and attractive fruits. Most of them bloom early, when flowers are lacking or highly to be desired. Late May usually finds them in full bloom or past their best, for the earliest begin in April. Later-blooming sorts continue the procession until August, when it is taken up again by some varieties which bloom more or less throughout the whole season, thus providing roses of some sort from April until frost.

Many of the species have given rise to double forms — either mutations or hybrids. These double roses are beautiful in themselves, but one must confess that they are a little too much "dressed up" to fit well into a small shrub-planting if any effect of simplicity is desired. For hedges between city lawns, for single specimens or groups of bushes, for interspersing among other ornate plants, they are excellent. The double rose

is a highly sophisticated flower, and it bestows its sophistication upon its surroundings.

The graceful form of rose foliage is always beautiful, but it varies widely through the different species, from the thin, willow-like leaves of *Rosa Watsoniana* to the broad, laurel-like foliage of *Rosa longicuspis*. The habits of the plants may be erect like *Rosa rugosa*, bushy like *Rosa spinosissima*, arching like the hybrid sweetbriars and *Rosa multiflora*, climbing like *Rosa setigera*, or trailing like *Rosa Wichuraiana*. In all this maze of riches there is unlimited opportunity for choice and experiment.

## II

## ABOUT ROSE PLANTS

THERE is a general impression that roses are hard to grow. That is not altogether true; some roses are the easiest things in the world to grow. I defy anyone to fail with hardy climbing roses if they are given half a chance. Almost all shrub roses are more than usually thrifty, and it is a very poor gardener who cannot succeed with them.

But the bedding roses, which include those so much desired for cutting, are more difficult. There is no denying that they are more or less fussy about their board and lodging. Roses, of a sort, can be grown easily by anybody, but in the little garden only good roses are wanted. Poorly grown roses are not attractive objects. Much too often we see big beds with a few dwindling roses in them, or poor, anæmic plants, looking horribly wretched in contrast with a few husky bushes beside them.

A prime necessity for success with roses is to begin with good plants. In spite of occasional exceptions, good plants produce good results and poor plants invite failure. Good-looking plants are not always the best. There is an inherent vitality in some plants of mediocre appearance which makes them superior to lush, overgrown specimens that wither at the touch of frost or shrivel in the heat of summer. The way to be sure of getting good plants is to buy them from a nurseryman who furnishes that kind of plant. One soon learns.

Touching the inherent vitality of rose plants, it is more or

less definitely known that a rose suffers a continual depletion of its vital force from the time it is taken out of the ground until it is restored to the earth. This fact has considerable bearing on the time of year to buy roses. Among informed amateurs there has recently been a steady agitation in advocation of autumn planting. There are many things in favor of it: the soil is in the best possible condition; the days are comfortable for leisurely, outdoor work, and planting roses ought to be a leisurely proceeding; but the chief advantage is that plants, fresh from the ground, with all their vigor unimpaired, may be obtained when the nurseryman digs them as they are ordered and ships them at once. As a general thing, plants available in the spring have been stored in warehouses over winter, protected from desiccation by a more or less efficient covering of sand or earth, according to the conscience of the nurseryman. During the whirl of confusion in the packing-sheds, when the mad rush of spring orders is on, roses may lie around with their roots exposed for hours or maybe days, with every chance to lose what life is left in them and to suffer other misfortunes as well, such as mixture of varieties, mislabeling, bruising, and breakage. The only real objection to planting roses in the fall is the risk of winterkilling, and I confess that it is a real danger where winters are very severe.

Even if one cannot plant roses in the fall, they should be bought then and buried deeply in a well-drained place in the garden until early the next year, when they should be dug up and permanently planted. Keeping them that way is dead assurance against drying-out, with its attendant loss of vitality.

No one can grow roses long without coming into contact with the budded *vs.* own-root controversy. This has to do with the two very different kinds of rose plants which are on the market. The budded plants and the own-root plants have been

tested side by side, time and time again, and with rare exceptions the result has always been in favor of the budded plants. I do not propose to reopen the controversy here, but I will make the unequivocal statement that in nearly twenty years of rose-growing I have found that, as a class, the own-root plants are unsatisfactory.

Own-root plants are raised from cuttings of individual plants which it is desired to increase. This is a simple process, much practised with geraniums, chrysanthemums, carnations, and the like. It is a perfectly legitimate practice and one which can be successfully carried out by any enterprising gardener. Almost everybody knows how to start plants from "slips," or has seen it done. This method has been developed to perfection in certain great propagating centres, and literally millions of the rooted cuttings are offered for sale. They are described as one-year-old, own-root roses. A larger size is offered as two-year-old, own-root roses; and special sizes are sometimes obtainable at special prices. They are grown in pots in greenhouses, and are shipped to the buyer while in full leaf and often in flower. Compared to budded plants, even the largest size is small; the wood is thin and wiry, and the foliage very tender when exposed to the rough winds of April and May.

For many years I planted great numbers of own-root roses because I knew no other kind. Year after year I watched them struggle along, some doing surprisingly well, only to succumb to the frost and wet of winter. I do not recommend them.

Budded roses succeed everywhere. A budded rose is one which is growing upon the root of a husky wild or half-wild rose called the stock — or more precisely, the understock. In nursery practice the understocks are started from seeds or cuttings and grown outdoors in the fields. Occasionally these stocks are large enough for budding the first season. More

often they are lifted at the approach of winter, sorted, pruned, and replanted the next spring. Beginning in July and continuing until late fall, these stocks are budded where they stand. Budding is a simple process, but requires some delicacy of touch and considerable skill. The method is to cut a bud from the rose which it is desired to propagate and insert it in a slit in the bark of the stock. The wound is bandaged and the plant tissues heal, incorporating the bud with the understock. The dormant bud is covered with earth for the winter, and early the following spring the entire top of the understock is cut away, leaving the two-year-old root with a single bud of the desired variety upon it. This one bud gives rise to a strong, flowering rose-plant before midsummer, continuing in growth the rest of the season. By autumn the plants are salable. They are at least one year old from the time the budding was done, and often more. The root was at least one year old, more often two, before budding. Thus the rose plant is really two or three years old, and it is called a two-year budded plant. The time required to produce this type of rose and its superior vigor and blooming qualities justify the higher price at which budded roses are sold. These are the roses to plant.

There can be no rule without its exceptions. The exceptions in this case are the climbing roses and certain shrub or bush roses which consistently form strong, rugged plants quickly from cuttings. These own-root plants, when grown outdoors, are standard, high-grade roses.

Ordinarily, bedding roses are budded on the stock at the surface of the ground or slightly below the ground-level, and form dwarf, bushy plants. Occasionally the stock is trained to one strong cane and the budding done three feet or more above the ground. Thus the actual rose-bush is at the top of a tall stem, where it forms a more or less symmetrical head. Such

plants are known as standards, or tree-roses. When climbing roses are so budded they are weeping roses.

Formerly almost all roses were grown as standards, especially in England, but they have so many disadvantages, compared with the dwarfs, that we seldom see them except in the largest and most expensively maintained gardens. They are extremely sensitive to cold and heat. It is not often that they can be brought safely through a Northern winter or a Southern summer without very special care. I mention them here only because they are extremely beautiful when well grown. They are the aristocrats of rosedom, giving an air of Old World dignity approached only by clipped boxwood and bay trees. To flank the entrance to the rose-garden, to outline main walks, or for accents anywhere they are ideal, and they produce an especially gorgeous effect when rising from a close-set bed of dwarf or lower-growing roses.

Standards are very scarce in this country. Because of their rarity they are high-priced, and for that reason, as well as because of the difficulty of growing them well, the beginner in rose-growing had better avoid them.

The understocks themselves deserve a special word. They must have powerful roots to pump vigor into the roses which they support; they must be hardy, and congenial to the roses grown upon them; they must be easy to propagate; and, in addition, they must satisfy certain requirements of interest only to nurserymen.

The stocks most frequently used in this country are a Japanese form of *Rosa multiflora* and a special type known as Manetti. Two other contenders for favor have appeared lately, a Chinese rose thought to be related to the Teas, commonly known as *Rosa odorata*, and the old Gloire des Rosomanes, popularly called Ragged Robin. Another stock is *Rosa rugosa*, a

special type of which is used to form standards. Mme. Plantier, an old, hardy white rose, is used extensively as a stock by some Southern firms, and there, too, *Rosa lævigata*, the Cherokee rose, has been valuable. The usual stock for English roses is *Rosa canina*, the dog-rose, which is their commonest wild rose. It is always referred to as the "brier." I mention occasional facts about England and English roses because the greater part of the literature of the rose with which the rose-grower comes in contact was written in England and applies to English conditions.

All in all, there is considerable difference of opinion and much lively discussion about the relative merits of different stocks, none of which need trouble the beginner. Any kind of stock is better than no stock. Any budded rose is superior to an own-root rose of the same age.

Besides these two types there are two others which deserve notice. The one of them, featured by one or two dealers, consists of plants grown in greenhouses upon stocks which have always been grown in pots. They resemble the larger sizes of own-root plants in appearance, but the strong-growing stock upon which they are budded or grafted gives them an energy entirely lacking in the own-root plants. My experience with them has been limited to one season only, but they have proved highly satisfactory. The others are ordinary two-year budded plants which have been lifted and potted by the nurseryman in the fall. They are stored in sheds or cold frames through the winter and marketed in full leaf the following spring, after it is too late to ship dormant plants.

Both these types are valuable for late planting and give excellent results the first summer. Vacancies often occur in rose-beds late in the season, when it is risky to set out dormant plants, even if they are obtainable. Potted plants are service-

able then, and it is seldom that they do not do well. The second year and succeeding years trouble comes. The roots, which were crammed into the pot by coiling and twisting, never regain their proper position in the soil and gradually die and rot away. As soon as the summer bloom is ended, such plants should be taken from the ground, their coiled roots straightened or cut off, and replanted properly. This ensures their continued health and increasing growth from year to year. My experience with the first of these two types is too short to say that they behave in the same manner, but I suspect not.

These different kinds of plants are produced by methods to ensure the reproduction of chosen varieties in quantities of plants of the same sort; but roses, like all flowering plants, are living things that procreate their race by seeds. To produce viable rose-seeds, the flower must be fertilized by either its own pollen or that of another rose. In either case cultivated roses do not reproduce themselves exactly from seed. If the fertilization has been by another rose, the opportunity for wider variation in the offspring is greater; and it is in this way that new varieties of roses are created. Artificial cross-breeding is practised widely by rose-fanciers, and consequently the number of varieties of roses is enormous. These varieties are grouped under broad general classes of similar habit or relationship. Of bedding roses the chief groups are: Hybrid Perpetuals, Teas, Hybrid Teas, Polyanthas, Chinas, and Bourbons. Of climbing roses, Hardy Climbers and Tender Climbers. Of shrubs, the Rugosas, various species, and miscellaneous sorts. They will be discussed in that order.

## III

## HYBRID PERPETUAL ROSES

In the early years of the past century roses were, with few exceptions, once-blooming only — that is, they bloomed once each season, exactly as old-fashioned kinds do now. Those old roses are not very important, but as we shall have occasion to refer to them in the following chapters, they are here recorded: —

Damask roses, which were of great antiquity, generally believed to be natives of Syria and the Near East, whence they were brought to Europe by the returning Crusaders. They are supposed to be derivatives of a somewhat mythical species, *Rosa damascena.*

Cabbage roses, also called the Hundred-leaved and Provence roses, whose origin is also wrapped in mystery. They are assigned to the species, *Rosa centifolia.* Moss roses belong to this group.

French roses, once the most popular of all kinds, comprising many blotched and striped varieties which have passed out of cultivation to a large extent. They are descended from *Rosa gallica.*

China roses, sometimes called Bengals, an everblooming type with rather small and uninteresting flowers, were much prized in autumn when they alone were in bloom. They are derived from a variable and complex species called *Rosa chinensis,* which was formerly divided into *Rosa semperflorens* and *Rosa indica.*

Bourbon roses, also an everblooming type, and of somewhat better form than the Chinas. Their colors were usually lighter than the Chinas, and they are generally thought to be a combination of the two species, *Rosa chinensis* and *Rosa gallica.*

With these there was grown an assortment of odds and ends of different types and species: Ayrshires (*R. arvensis*), Sweetbriers (*R. rubiginosa*), Austrian Briers (*R. fœtida*), Scotch Briers (*R. spinosissima*), the White Roses (*R. alba*), Boursaults (*R. pendulina*), and their seedlings, sports, and hybrids. In a small and exclusive class, scarcely hardy enough for outdoor use, were the Teas (*R. odorata*).

The China roses and the Bourbons soon mixed with the Damask, French, and Provence roses, forming two well-defined sub-classes, which were called the Hybrid China and the Hybrid Bourbon. These roses were also once-blooming, the everblooming trait of the Chinas being submerged. They were the aristocrats of rosedom for a number of years, until in 1837, from a chance mixture of varieties, probably the Hybrid China and the Hybrid Bourbon, there arose in the gardens of M. Laffay, in France, a rose of totally different character. This rose was called Princesse Hélène. While other seedlings had been raised and other roses introduced purporting to be recurrent-blooming, this was the first rose of real quality to possess that trait, and it is generally considered the first of the new race, which was called Hybride Remontant in France, and Hybrid Perpetual in England. In 1840 twenty varieties were catalogued, and in 1843 appeared La Reine, a rose which really put the new class on its feet. La Reine is still worth having, and is cherished in a few old gardens.

The advent of a class of roses possessing the blessed character of blooming more or less freely a second time in summer or in the autumn was destined to banish from general cultivation all of the older types, only a few of which could claim that desirable quality.

In the fifty years from 1840 until 1890, Hybrid Perpetuals

attained complete dominance of the rose-gardening of Europe and America; and if we may trust the writers of that period, they developed into marvels of incredible beauty. The pictures in their quaintly illustrated books are not entirely convincing, and the few actual roses which have come down to us are not the paragons of beauty one might expect; but, in spite of all, the Hybrid Perpetuals are impressive roses of noble stature and dignified bearing, and almost all of them possess that ineffable perfume which we associate with old-fashioned roses. Their flowers are uniformly large, usually of solid colors without much shading, and generally pink, crimson, and red. They endure the winters in severest climates, — with protection, — and they spend themselves in an orgy of bloom at their season, excelling all roses except the Climbers. The "perpetual" part of their name is optimistic. A few varieties do give scattering flowers from July on, but it is best not to count heavily upon them if late roses are wanted.

Difficulties will be encountered in using Hybrid Perpetuals in the little garden. Their growth is ungainly. They throw up tall shoots which become bare at the base, and their foliage is a prey to black-spot, — an enemy of roses about which I shall have more to say later, — but they cannot be ignored.

They might be kept in the background of lower plants, not necessarily roses, which hide their bare legs but do not grow tall enough to smother them. They can be trained in bush- or balloon-fashion by spreading the tall canes apart and tying the ends together, like the handles of large hampers. By that means their six or seven feet of growth may be reduced to four or five, forming a fine bush nearly four feet through. A simpler method is to tie them to slender poles and treat them as pillars — a form of training especially adapted to all vigorous roses except the most rampant Climbers.

The best way is to cut them back severely. Under such treatment they become sturdy bushes eighteen inches to three feet high, bursting with bloom on all sides like enormous bouquets. In fact, this is the only way to obtain those immense, perfectly formed flowers which delight the heart of the fancier or exhibitor. Of course, if the little garden is big enough, the Hybrid Perpetuals can be given a special bed to themselves, or be arranged in a border about it. They are quite amenable to training, and many uses can be found for them. The only really bad thing is to place them conspicuously, and expose their shame when out of flower.

The number of varieties of Hybrid Perpetuals is no longer what it once was. The longest list in any American catalogue consists of less than fifty varieties. In *The Rose Garden*, by W. Paul, F.L.S., (ninth edition, 1888, when the popularity of the Hybrid Perpetuals was at its height), there are listed over eight hundred varieties. The craze for the Hybrid Teas has pushed them to the verge of extinction, but they are too good to lose. That this feeling is becoming universal is evidenced by the introduction of interesting new varieties, and a revived attention among informed rosarians. The fine growth and satisfying wholesomeness of the Hybrid Perpetuals are not equaled by the more ornate and prettified Hybrid Teas which have usurped their place.

Unless in the extreme North, the little garden need not concern itself with more than twelve different kinds of Hybrid Perpetuals, and six will probably be all there is room for. One plant of each will produce enough flowers to justify its existence, unless more are wanted for display; but it must be borne in mind that, although one plant is enough to have if it turns out well, it is never wise to discard any rose until it has been tried at least three times by different plants or in different

seasons. The performance of rose plants differs so very much that it is not safe to reject a variety on the evidence of one year's trial or of one plant.

The following names comprise most of the good Hybrid Perpetuals and a few of the bad ones which I have tried. The bad ones are mentioned to discount the overenthusiastic descriptions often found in catalogues and elsewhere, which are merely copied from European advertisements and do not describe the roses as they appear in the American climate.

The gravest fault I have to find with the Hybrid Perpetuals is that many named sorts are too much alike. Under favorable conditions these varieties may develop distinctions not otherwise definite. I am glad to say there are parts of the country, particularly the Pacific Northwest, where the Hybrid Perpetuals do grow much better than in northern Ohio where I have had most of my experience with them. In the following list I mention only varieties which are sufficiently different from each other so that none of them could ever be mistaken for another by anyone who has grown them well.

Anna de Diesbach (Lacharme, 1858): a fine rose with dark-carmine blooms of the old-fashioned, incurved shape, with many overlapping petals. It is very fragrant, hardy, and a standard sort in all collections. It has been known to bloom in autumn.

Baroness Rothschild (Pernet, 1867): very light rose-pink of an exquisite shade, and perfectly shaped, the cupped petals rising uniformly about the close centre. It is unmistakable in the way its blooms nestle in a cluster of foliage on the top of a stiff stem. It has no fragrance, and I have never known it to bloom in the fall, although I am told that it sometimes does.

Captain Hayward (Bennett, 1893): the very large blooms are scarlet-crimson, and somewhat loosely formed when fully open,

but are perfect in the half-expanded state. It is extremely fragrant, and usually in flower from the middle of June until killing frost, with the high points about the first of July and the first of October.

Clio (W. Paul & Son, 1894): one of the most rampant, violently growing varieties I know, and viciously armed with thorns. The flowers come in clusters of three to seven and really ought to be disbudded, but I never have the heart to do it. They are a very light shade of flesh-pink, quite silvery, and sometimes milky-white. Fragrance is faint and just a little rank. This lovely rose is the favorite pasture of the rose-bug and suffers severely from its attacks. Wet weather also spoils the blooms, and severe heat scorches the buds so that they cannot open. I have never noted any fall bloom.

Fisher Holmes (E. Verdier, 1865): this is my choice of all the dark-red Hybrid Perpetuals for sheer beauty of form and color. The flowers are often quite small, but their glorious red is unequaled. Very fragrant, and blooms a little in the autumn.

Frau Karl Druschki (P. Lambert, 1901): with Baroness Rothschild, the only rose in this list which lacks fragrance. It is pure snow-white, although its buds are sometimes pinkish, and is exquisitely formed in bud and open flower. It blooms in successive crops from early summer until late fall, although in hot summers the flowers are not up to standard. I would gladly forgo the summer flowers for fragrance. The plant is very strong, growing to ten feet or more, and must be kept under rigid control.

General Jacqueminot (Roussel, 1852): the old General has a hold upon the affection of every seasoned rose-grower, and it is a poor gardener without a General Jack somewhere about the premises. The color is bright clear red, which blues as the flowers age, but it was for many years the standard by which

other red roses were judged. The blooms are not fully double, but are very fragrant, and well shaped, even in this day and age. A few blooms may come in fall.

Georg Arends (Hinner, 1910): one of the most charming and lovely of all roses of any class, with blooms as perfectly pointed as the best Frau Karl Druschki. It is the softest, loveliest shade of pink imaginable, and sweetly fragrant. After the early summer bloom it is very sparing with flowers, but frequently gives a few fine specimens in the fall.

George Dickson (A. Dickson & Sons, 1912): a worthless rose which ought to be in every fair-sized collection. Its dark-scarlet blooms are too heavy for its stems, and it is not hardy enough. It should be put in a favorable but inconspicuous place, and given preferred attention. Some day it will astonish the most calloused.

J. B. Clark (H. Dickson, 1905): a disappointing rose, which has been described in the most flamboyant terms. A very few of its flowers are good, but they are usually light purplish-red, without much form, on enormous and unwieldy plants that belong in the middle of a forty-acre field. It is no rose for the little garden.

Magna Charta (W. Paul & Son, 1876): a lovely, lovely old rose, for which I have the greatest admiration and respect. I know none better in tender deep-pink color, or surpassing it in fragrance. It is one of the very best and most desirable of all roses. I have never seen it bloom in autumn.

Mme. Gabriel Luizet (Liabaud, 1877): listed here only because it is in almost every catalogue. It has no virtue I know of, except it is reputed to be one of the parents of the climber Dorothy Perkins. It is utterly commonplace and ordinary.

Mrs. John Laing (Bennett, 1877): on the contrary, this is a rose that is everything a rose should be. Clear pink, exquisite

*Hybrid Perpetuals closely pruned for bedding purposes*

(*The variety is Magna Charta. If left unpruned the plants would be much larger*)

shape, rich perfume, blooming continuously through summer and fall, and almost thornless. What more can one ask?

Mrs. R. G. Sharman-Crawford (A. Dickson & Sons, 1894): a very good pink rose, steady-blooming and fragrant. Not a favorite exactly, but good enough to be in the first ten Hybrid Perpetuals of anybody's collection.

Paul Neyron (Levet, 1869). When some ignoramus rushes up to the huge purplish-pink roses seen in public parks and exclaims, "See them American Beauties!" you may be pretty sure that the variety is really Paul Neyron. It is enormous and shapeless, but very dependable and fragrant. Blooms in fall.

Prince Camille de Rohan (E. Verdier, 1861). A lot of people every year buy this as the "Black Rose." It is sold under a number of names, and advertised as the blackest rose there is. Actually it is very dark purplish-red, with smoky stains on the outer petals. There are several roses blacker, but I know none that are more purple. It is intensely fragrant, but rather small and unimportant, and the plant is seldom vigorous. I have never seen flowers upon it in autumn.

Suzanne-Marie Rodocanachi (Lévêque, 1893): a rose which escaped me for years. When I first saw it I was delighted, and I have cherished it ever since. Dark, glowing pink, but not very fragrant. Keeps, when cut, like a cabbage.

Ulrich Brunner (Levet, 1882): my opinion will be disputed by many — that this is a vastly overpraised rose. It takes up too much space in too many catalogues and gardens. It does make a magnificent display at its season, but it has no keeping qualities when cut, it does not last on the plant, and it never blooms after early summer. The color is generally called cherry-red, which means light reddish-purple.

Xavier Olibo (Lacharme, 1864): this is a really dark-red rose,

verging toward black. The plant is a weakling and requires considerable care to grow it well.

American Beauty (Ledéchaux, 1875): this rose is included in the list, not because it is important, but because so many people think so. It is worthless for the garden except in favored locations; and this entry is a warning to all good folks to keep away from it. Also ignore such snares as Crimson American Beauty, White American Beauty, Pink American Beauty—there are no such roses. The "American Beauty" part of the name is merely a trap for people who think everything with a well-known name must be good. Roses so designated have perfectly good names of their own under which they should be sold. White American Beauty is usually Frau Karl Druschki; Pink American Beauty may be Georg Arends, but is sometimes Heinrich Münch; and Crimson or Red American Beauty may be anything. I have even seen a yellow one advertised; and that is stretching it too far. There is a genuine Climbing American Beauty, which is unfortunate.

To the foregoing must be added three roses which are beautiful and important. As a by-product in the creation of the modern yellow Hybrid Teas, there came into existence a number of Hybrid Perpetuals which bear yellow flowers. These are usually segregated as Pernetiana roses, an utterly useless and confusing classification, since they are distinctly Hybrid Perpetuals in character of growth and bloom, bearing the long-desired yellow color.

Soleil d'Or (Pernet-Ducher, 1900): treasured only for its gorgeously colored blooms. The plant is bad; it dies back, becomes diseased, and is very erratic generally. Its flowers are misshapen and too double, but the color is orange and red and apricot in bewildering confusion.

Beauté de Lyon (Pernet-Ducher, 1910): a much better behaved rose than the foregoing, with better-shaped flowers and deeper orange color. I like it best of the three Pernetianas, although the others are lovely. It is a quite steady bloomer, keeping up a show of color all summer, but has to be protected against diseases.

Juliet (W. Paul & Son, 1909): a rose which has had imitators but no superior. The blooms are large, cupped, and pointed in the centre after the most approved exhibition fashion; the inside of the petals is dark glowing pink or rose, and the outside is old gold, the two colors glittering with a metallic lustre. Juliet produces a wealth of bloom early in the season, but it does not flower afterward. Sometimes its flowers are very bad, particularly if the season is hot, but when they are good they are very, very good.

A selection of six or a dozen Hybrid Perpetuals ought to be made from the foregoing list without difficulty. They are not the easiest roses in the world to manage, but I notify the reader, solemnly and in all sincerity, that he will never know real rose joy, he will never taste the genuine flavor of rose happiness, until he has grown Hybrid Perpetuals well; until he has cut with his own hands, from his own bushes, great armfuls of the exquisitely lovely Georg Arends, or has produced, after innumerable failures, one perfect bloom of the difficult George Dickson.

## IV

## TEA ROSES

Modern Tea roses were brought to perfection in southern France, from pink and yellow varieties imported from China at the beginning of the last century. They are descended from a form of the Asiatic species *Rosa odorata*, which had developed the highly desirable habit of blooming continuously, an attribute gained with the loss of its ability to withstand cold. Tea roses, and all roses closely related to them, are exceptionally tender. They are distinguished from the Hybrid Perpetuals by their usually continuous bloom, more bushy, branching growth, smooth, waxy foliage, and rather smaller but equally well formed flowers deserving the adjective exquisite, whereas the Hybrid Perpetuals may be called handsome. Their range of color extends through many shades of pink, white, and yellow, thus complementing the Hybrid Perpetuals, which originally lacked yellow. The yellow color of the Teas is not permanent, but fades very quickly in sunlight or heat — a quality which was transmitted to the Hybrid Teas. No rose of pure Tea or Hybrid Tea blood seems to be permanently yellow — at least in our bright Northern sunshine. The Tea roses also lack dark-red shades, although there are a few which are so deeply pink that they are often called red.

They are especially free from insects and fungus troubles. Their tough, waxy foliage seems immune to mildew, and black-spot conquers them only after a prolonged siege. For

that reason alone they are most valuable in the South, where the season is long, giving disease every opportunity to obtain a foothold, and in damp districts near the ocean or other large bodies of water, where mildew is likely to be rampant. This partial immunity to disease actually gives them a special value in regions where they are not reliably hardy.

The great trouble with the Teas in the North — besides their lack of hardiness — is the excessive amount of balled and withered blooms which they produce. "Balling" is a term used by rose-growers to describe the failure of buds or blooms to open properly. The violent changes of temperature between noon and midnight have something to do with it, dry, hot weather being the worst for them, and very wet, chilly spells almost as bad. In cool, clear weather the Teas open well, even the most double. The truth of the matter is that in the North the Teas produce an immense quantity of flowers, but very few of them are worth looking at, because of their withered outer petals.

The place of the Tea roses in the little garden depends upon where the little garden is, and how much trouble and expense the owner is willing to incur to have them. South of the Mason and Dixon line — or better still, south of the Potomac River — Teas ought to be grown, by all means. The South is their home, and in the South they flourish. In the North all except a few very hardy ones require winter protection far out of proportion to their value if they are grown in quantity; but a few of them can be protected with little trouble and they are worth a great deal of trouble.

They may be planted with Hybrid Teas and given the same attention, but I like to keep them in a separate bed, where the special protection may be arranged for and allowance may be made for their spreading, branching growth. They may be

grown in small bays or pockets in the shrubbery border, by keeping clear of overhanging plants which shut off sunshine and permitting no plant of equal or taller growth in front of them. In districts where zero weather or worse may be expected, they seldom grow more than a foot or two high, but they spread laterally by horizontal branches over considerable space. Where no damage ever occurs in winter, they eventually attain a height of six feet or more and become proportionally bushy.

Because of their tenderness and thin-textured blooms the Tea roses are of very little importance over the largest section of our country, and the number of varieties on the market is steadily decreasing. It is sometimes hard to find a single one in some of the recent catalogues. They are almost nonexistent in the lists of the Northern nurserymen who bud roses outdoors. Southern dealers carry some, but they do not seem to have developed the Tea rose to any extent, or to have made any effort to obtain new varieties from abroad, preferring to distribute the better-advertised Hybrid Teas, although Teas would, in many instances, give their local customers more satisfaction.

At one time or another I have grown all the Teas in the following list, but my observations are based upon experience in a none too kindly northern climate. Where their behavior in more congenial regions is known, I have mentioned it.

Alexander Hill Gray (A. Dickson & Sons, 1911): a lemon-yellow, very double rose, which fades badly in heat and hangs its head. In very favorable climates and in cool, dry weather it opens well and the stems are better. The plant is hardy for a Tea, standing ordinary winters with the same protection as the Hybrid Teas, and although it freezes back badly, it lives.

Bon Silene (Hardy, 1835): deep rose or carmine-pink with a yellowish cast — a color which some might call salmon. The

sweetly fragrant flowers are almost single, with large, round petals, forming lovely buds. I never succeeded in carrying it over winter outdoors, but it has bloomed well indoors in pots. It is worth while in cold climates, even if it has to be treated as an annual plant, and it is highly recommended for regions of mild winters.

Comtesse Riza du Parc (J. Schwartz, 1876): tender yellowish-pink, almost coppery blooms, with very few petals, so that it always opens well. It is one of the most beautifully shaped buds and flowers I have ever seen, but, like Bon Silene, it is best used as an annual in the North.

Duchesse de Brabant (Bernède, 1857): I am sure this is the rose described by Ellwanger, in *The Rose*, as Comtesse de la Barthe, by which name it is still grown in Australia. The Duchesse is quite hardy, living outdoors with me for many winters. Its blooms are of moderate size, cupped in form, and pretty light pink, but there is not much substance to them. In warm temperate regions it attains the dignity of a small shrub, and I am told makes a very good everblooming hedge.

Dr. Grill (Bonnaire, 1885): a very beautiful rose which, unfortunately, will not stand a Northern winter. It is pale yellow with a coppery centre, and sometimes slightly pinkish. The flowers nod, but they open well, and the color fades very little.

Harry Kirk (A. Dickson & Sons, 1907): a splendid rose which is strictly a Hybrid Tea in habit and appearance. The buds are superb, but the straw-yellow flowers fade rapidly and are very pale a few hours after opening. If the buds are cut, the color lasts very well. For its healthiness and willingness to bloom it deserves a place in any collection.

Lady Hillingdon (Lowe & Shawyer, 1910): a pretty yellow rose which may be distinguished from all others by the fairylike tracery or filigree work with which the buds are ornamented

by the appendages of the sepals. It is fine in cool weather, but the stems are weak and the color fades in heat. The best I ever saw were in Massachusetts in late September.

Lady Plymouth (A. Dickson & Sons, 1914): a very large, very double, perfectly formed rose, which appears to be the ideal toward which all the older light-colored Teas were striving. It has seldom balled for me; it opens almost white, with a faint creamy or ivory tint at times. It endures mild winters very well, but one of normal severity killed established plants.

Lady Roberts (F. Cant & Co., 1902): a delightful rose of pale creamy-yellow, with an intensely orange centre. It is very double and very sweet. The blooms always open well; they revel in hot weather, although their size is diminished by it. The plant is not troubled by disease, but cannot stand a hard winter.

Maman Cochet (P. Cochet, 1892): a very popular rose that I do not like. It is highly successful in almost every part of the country except the extreme North, favorable reports coming from Texas, Idaho, Kansas, Florida, Maryland, and New England; but I have never seen a decent bloom upon it. The outer petals wither; it drags itself on the ground; the washy pink color fades or becomes speckled with red dots; in fact, it makes a mess of itself generally.

Marie Van Houtte (Ducher, 1871): this very beautiful Tea lived with me for several years, but never grew more than a foot high. Remembering the beauty such small plants gave me, I stagger to think of the six- and eight-foot bushes it becomes in favorable climates. The blooms are pale yellow or lemon-cream, each petal edged with silvery pink.

Miss Alice de Rothschild (A. Dickson & Sons, 1910): ordinarily it bears its flowers erect, and the clear yellow color shows well if one peels off the withered outer petals.

Mlle. Franziska Krüger (Nabonnand, 1880): at its best it displays a wealth of coppery color that makes some of the new Hybrid Teas look to their laurels, but it hides its beauty by turning every flower-face downward. It is too double, and often shows an ugly green botch in its centre. Very hardy for a Tea and very strong-growing, which makes me think it would be a good rose for large beds in a temperate climate, or for hedges. It freezes to the ground for me, and has never exceeded two feet in height.

Mme. Camille (Guillot fils, 1871): I suppose this is the obituary and epitaph of Mme. Camille. I have n't seen this old rose for fifteen years at least, or observed her name in a catalogue. She was a dependable rose in her day, strong-growing, easy-blooming, but with a rather terrible color. As I recall, it resembled the under side of a mushroom.

Mme. Constant Soupert (Soupert et Notting, 1905): a well-shaped bud of light yellow, paling almost to white. It is similar to Harry Kirk, but the bud is longer and slimmer; the open flower is not very good, and the plants are very tender. Marked as one of the most beautiful roses I ever grew, and some day I hope to grow it again.

Molly Sharman-Crawford (A. Dickson & Sons, 1908): the buds and blooms are not very large, but large enough for such a delicately formed and daintily colored bit of beauty. The tips of the buds are white, shading to pale greenish-yellow, which fades out as the bud opens, leaving a snowy-white flower with a pale-green base. The plants grow wretchedly and have to be replaced every year.

Mrs. B. R. Cant (B. R. Cant & Sons, 1901): a very strong, hardy sort, shooting out long horizontal branches that bear many smallish, very double, deep-pink blooms with yellow-white blotches and tips. I think it is superlatively ugly for a

rose, but many people like it, and it is reported to be most hardy and beautiful in North Carolina, where it grows into noble, spreading bushes. The foliage is tiny and sparse. I have never seen it troubled by disease.

Papa Gontier (Nabonnand, 1883): a nearly single rose, whose color resembles the heart of a ripe watermelon — the nearest to red I have ever seen in a Tea rose. Its buds are very beautiful; it is deliciously scented; and it grows well and blooms freely. If it would only live over winter, I should have it always. It is happy in the South.

Perle des Jardins (Levet, 1874): I have tried this yellow rose many times, but it is worthless in the North. The buds wither and ball so badly that it scarcely ever shows a perfect flower. Does well under glass, or in a cool, dry climate with mild winters.

Safrano (Beauregard, 1839): no rose-garden is a real rose-garden until Safrano is in it. It is a little old darling — close to a century old — whose lovely buds of saffron and apricot are just about the sweetest things imaginable. I have always wanted a small bed of Safranos edged with forget-me-nots, but in our unaccommodating climate the forget-me-nots stop blooming before Safrano begins, and that's a pity. Farther north, perhaps, or farther south they may be caught together. The plant is fairly hardy; I have several five years old; but even if it had to be replaced each spring, I should still have it. I am not sure just what there is about it I admire and like so much; perhaps it was my first really successful rose.

Souvenir de Pierre Notting (Soupert et Notting, 1902): a richly colored, orange-yellow variety, but it seldom produces good flowers. They are likely to be misshapen and drooping, and they frequently ball and wither grievously. The plant grows and blooms well, but will not stand zero weather.

White Maman Cochet (J. Cook, 1897): where Maman Cochet has aroused only my utmost disgust, this sport of it is really one of the best Teas. When its blooms are good they are splendid, but they scorch and ball so easily that good ones are rare. They are fine in the cool days of fall, but even then they are often spotted with pink dots which spoil them.

William R. Smith (Smith, 1908): quite the most perfect of the double Teas. Its value may be attested by the number of names which it carries. Jeannette Heller, Charles Dingee, and at least one of the Maiden's Blushes are all the same rose as William R. Smith. The flowers are pale pink and creamy white, delightfully mingled in its shell-like, curling petals. It is quite hardy and grows very vigorously, with stiff horizontal stems bearing ideal blooms for cutting. It attains eight feet in favorable climates.

Yvonne Vacherot (Soupert et Notting, 1906): a curiously beautiful rose, with the longest pointed buds, delicately shaded white and pink. The flowers fade badly, and the plant is rather spindling, but it blooms very freely. I like it in spite of its erratic habits and indifferent hardiness.

There are also climbing Tea roses, some of which will be referred to in the chapter on Climbing Roses. Almost all in this list, and a great many more Tea roses, are duplicated by climbing varieties. The climbing Teas are everblooming, but even more tender than the dwarf Teas, which limits them to Southern gardens only.

Catalogues usually relegate both the Teas and the Hybrid Perpetuals to obscure sections in the back. In some, the Teas have lost identity and are mingled with the Hybrid Teas. It is to win back a measure of consideration for two very distinct and lovely kinds of roses that separate chapters of this book

have been devoted to them. It would be bad for rose-growing if all the Hybrid Perpetuals and Teas should disappear. Lovely as the Hybrid Teas are, one hungers at times for the solid, red-meat fare of the Hybrid Perpetuals, and the more delicate flavor of the Teas.

## V

## HYBRID TEA ROSES

The rose La France was the first Hybrid Tea. It was sent out as a Hybrid Perpetual by Guillot in 1867. Its parentage is given as Mme. Victor Verdier (H.P.) by Mme. Bravy (T.); that is, the progeny of a Hybrid Perpetual crossed by a Tea rose. At the time of its first appearance, and for many years after, it was not realized that a new race of roses had been born. La France was regarded as a miraculous sort of Hybrid Perpetual which insisted upon blooming more or less continuously like a Tea, without being so susceptible to cold. More and more roses of this type appeared from year to year, but it was not until the introduction of Mme. Caroline Testout, in 1890, that the class of Hybrid Teas was generally recognized as important.

Since then they have increased to multitudes; they have wiped out all but a gritty remnant of the Hybrid Perpetuals, and the Teas are almost effaced from the earth. When one talks of roses nowadays, Hybrid Teas are always meant unless some other class is definitely mentioned.

As a group, they stand between the Hybrid Perpetuals and the Teas. They are less hardy than the Hybrid Perpetuals, more dwarfed, inferior in massiveness and nobility of bloom. This is especially true of red varieties. To obtain a really soul-satisfying red rose we must still go to the Hybrid Perpetuals. The Hybrid Teas have lost the Hybrid Perpetual fragrance to a large extent, but some have it, more or less blended with the scent of the Teas. On the other hand, they are hardier than Teas, surviving in all but the most severe climates; they have largely retained the free-blooming habit

and the graceful flower form, with the delicately blended colors of the Teas. In addition they have developed an amazing wealth of gorgeous, scintillating, copper, salmon, and yellow hues which never graced a Tea or a Hybrid Perpetual in the past.

This burst of barbaric color comes from the infusion of a strong strain of the Asiatic *Rosa fætida* and its subspecies, *Rosa fætida bicolor*. These two species are known as the Austrian Briers, and have been in cultivation some three hundred years. Hybrids were made between forms of these roses and the Hybrid Perpetuals, and in subsequent breeding the color was passed on to the Hybrid Teas. The development of these brilliant hues in the Hybrid Perpetuals did not proceed very far. Three varieties are mentioned in Chapter III, but many others were originated, particularly in France and Germany.

With this wealth of color the Hybrid Teas inherited a foliage weakness so deplorable that the efforts of hybridizers to overcome it produced an amazing procession of ephemeral varieties, which were quickly discarded. Time and patient work have improved them until now these golden and flaming beauties are reasonably healthy, and may be trusted to behave respectably in a well-regulated garden.

Sometimes these newer Hybrid Teas are called Pernetianas, to honor M. Jules Pernet-Ducher who originated them; but the process of interbreeding with pure Hybrid Teas has proceeded so far that it is becoming more and more difficult to distinguish between the new sorts, and that name is gradually disappearing from American catalogues and from the publications of the American Rose Society.

The little garden is deeply concerned with this race of Hybrid Teas. They are the roses which decorate the garden all summer and fall; it is from them that the long-stemmed beauties are

*The brilliant fiery-orange Hybrid Tea-Rose, Etoile de Feu*

cut to give away or to adorn the house. There are so many varieties that it is no easy matter to choose among them, especially from catalogue descriptions. In the past, catalogues have been exceedingly liberal in praise of all varieties, and equally sparing with blame; but a change is taking place, largely due to the strenuous efforts of the Editor of the American Rose Society's publications, and several large rose-growers are rapidly revising their catalogues to give more nearly truthful descriptions.

No one is really started in rose-growing until he has accumulated at least two dozen Hybrid Teas. If I were making a garden of twenty-four roses to-day, it would consist of three plants each of the following: —

Etoile de Feu (Pernet-Ducher, 1921): the brightest and best of the brilliant copper-orange roses. It is rather dwarf and bushy, has good foliage, and blooms steadily but not profusely.

Etoile de Hollande (H. A. Verschuren & Sons, 1919): the best dark-red H.T. rose to date in size, form, fragrance, freedom of bloom, and general beauty and usefulness.

Miss Willmott (S. McGredy & Son, 1916): a superior white variety, lightly tinted at the centre, but a better grower and bloomer, even in hottest weather, than the famous old Kaiserin Auguste Viktoria, and a much finer rose to look at than Mme. Jules Bouché.

Mme. Butterfly (E. G. Hill Co., 1918): the best of the pale-pink roses of the Ophelia group. Ophelia is beautiful, but almost white in hot weather, while Mme. Butterfly retains a little color the whole season. In the autumn the two are almost identical. I include in the Ophelia group: Ophelia (W. Paul & Son, 1912), Mme. Butterfly and its other sports; Antoine Rivoire (Pernet-Ducher, 1896); Prince de Bulgarie (Pernet-Ducher, 1902), and possibly others. The last two are very

distinct roses, but need not be in the little garden if Mme. Butterfly is there.

Mrs. William C. Egan (Howard & Smith, 1922): a rose whose coloring is similar to many old sorts, — flesh-pink with a darker rose-colored centre, — but a distinct advance in great depth of petal and fine water-lily form when fully open. It is a vigorous, branching plant.

Rev. F. Page-Roberts (B. R. Cant & Sons, 1921): deep buff-yellow, strongly suffused with reddish-copper on the buds and outside of the petals. It is often disappointing in summer, but its gigantic size, splendid color, and fragrance in the autumn atone for its sins.

Souvenir de Claudius Pernet (Pernet-Ducher, 1920): a year from now I might not include this rose, because of the number of similar varieties coming out which may prove better. It is clear yellow without shading, fadeless, with very large and splendid buds, but the open flower is spoiled by an ugly, blackened centre. Its chief rivals for first place as a yellow rose are: Mrs. Beckwith (Pernet-Ducher, 1922), which is a trifle lighter but seems to have a better centre; Mabel Morse (S. McGredy & Son, 1922), which appears to be equally good, but more dwarfed and of more expanded form; Mary Pickford (Howard & Smith, 1925), which is a little richer in color but fades more and has not shown equal texture or size; Eldorado (Howard & Smith, 1922), more double and better shaped, although it sometimes hangs its head, and is not so intensely yellow; Ville de Paris (Pernet-Ducher, 1926), which I have seen only under glass. Advice from abroad indicates that it will be a freer bloomer, without the black centre and with fewer thorns. For the present we are safe in considering Souvenir de Claudius Pernet the surest and best yellow rose.

Willowmere (Pernet-Ducher, 1913): my favorite rose of all

roses. It is strong-growing, with long pointed buds and exquisitely shaped blooms of glowing orange-tinted pink which seems to shine with an inner sunlight of its own. Immeasurably superior to Los Angeles in growth, hardiness, and productivity, but not so good in color or fragrance. It is very thorny and quite scentless.

The following general list contains roses which are superior to the foregoing in some points but not so distinct, although some of them might be very satisfactorily substituted. They are mostly old, well-known varieties, which are found in every garden.

Betty Uprichard (A. Dickson & Sons, 1920): finest of the bicolor roses, showing light flesh-pink sharply contrasted with glowing coppery-red or deep salmon-pink. It is very difficult to describe it and equally hard to refrain from its extravagant praise. A lovely and altogether desirable rose with the fine quality of holding its flowers unwilted in the most terrific summer heat.

Etoile de France (Pernet-Ducher, 1904): clear, bright crimson, of fair form, fragrant. The color blues with age. I place it before the following varieties because of its general, all-season dependability: — General MacArthur (E. G. Hill Co., 1904): a good rose of excellent red, but likely to become pinkish and have very few petals in hot weather. H. V. Machin (A. Dickson & Sons, 1914): a very brilliant and striking variety of erect growth, but likely to forget to bloom in midsummer. Mme. Meha Sabatier (Pernet-Ducher, 1917): very bright and very free blooming, but utterly without form except in the bud stage. These four are the best of a general type of red rose, but are, of course, quite different from each other.

General-Superior Arnold Janssen (M. Leenders & Co., 1912):

a tall-growing, beautifully formed rose of curious light crimson. The color is very similar to Red Radiance, which blooms better but is not so well shaped.

George C. Waud (A. Dickson & Sons, 1908): a perfectly formed rose of a distinct light-red, very fragrant and floriferous. Unique in color.

Grange Colombe (P. Guillot, 1911): pale ivory or creamy flowers of excellent form, becoming white with age. One of the few good light-colored roses.

Königin Carola (Türke, 1903): extremely large beautiful buds and satiny-rose flowers tinted with silver. Tall-growing and handsome.

Lady Alice Stanley (S. McGredy & Son, 1909): it was heart-breaking to leave this noble rose out of the first eight. Bright carmine-pink with silvery reflexes, very large, stiff-stemmed, double, and perfect, sweetly fragrant, broad, deeply veined foliage. A superb rose.

Lady Ashtown (A. Dickson & Sons, 1904): beautifully pointed buds and flowers of an even, glowing pink. It seems to deteriorate with age, but the first year's flowers are superb.

Mme. Caroline Testout (Pernet-Ducher, 1890): a shapeless old thing, but so dependable and bright pink it is worth having. It is the famous "Portland Rose" of the Pacific Northwest. In small gardens it may well give way to Radiance.

Mme. Léon Pain (P. Guillot, 1904): a favorite, unwillingly left out of the first eight. Splendid flowers of salmon and light orange-pink, fragrant and most freely produced. Low, rather spreading growth.

Mrs. Aaron Ward (Pernet-Ducher, 1907): a tremendously popular and deserving little rose of unique shape, deep buff-yellow, fading in hot weather to white and pale pink. Low, spreading growth, with pointed, holly-like foliage.

Mrs. Henry Morse (S. McGredy & Son, 1919): everything points to the fact that this rose is immeasurably superior to most of the better-known pinks. The flower is large, with the same two-color effect as the bull-nosed old Jonkheer J. L. Mock, but not so double or so likely to ball.

Rose Marie (F. Dorner & Sons, 1918): large, glossy, pink flowers of splendid shape and excellent form, heavily perfumed. One of the newer roses, which are vastly superior to a host of the old sorts.

Souvenir de Georges Pernet (Pernet-Ducher, 1921): a light shade of brick-red, fading to coral-pink, very full and fine. A low, stiff-growing plant and not very floriferous, but a splendid color, and very showy because of its immense blooms. A similar rose is Souvenir de George Beckwith (Pernet-Ducher, 1919), which is well liked because of its better growth and freer bloom, although it is not so highly colored.

Souvenir de H. A. Verschuren (H. A. Verschuren & Sons, 1922): a yellow of the old Hybrid Tea type; in form it resembles Ophelia, and in color the discarded Sunburst (Pernet-Ducher, 1912). It seems to be the best of a series of Ophelia's descendants, including Golden Ophelia (B. R. Cant & Sons, 1919), Mrs. Calvin Coolidge (F. R. Pierson, 1924), and various other so-called Yellow Ophelias. Roselandia (W. Stevens, Ltd., 1924) seems to be a shade better, but is so new in this country that it has scarcely had adequate testing.

A number of florists' roses have found their way into the garden. They are generally unsatisfactory, but Columbia (E. G. Hill Co., 1917) has many admirers. It is a fine, strong plant. I do not like its blotchy color, but others may forgive that because of its excellent form and keeping-qualities.

There is also a large class of roses mostly with rather flimsy

flowers so profusely produced that they are indispensable for garden decoration only. Some of the best are: —

Betty (A. Dickson & Sons, 1905): beautiful foliage, and the loveliest, longest, coppery-pink buds of all the roses I know.

Charles K. Douglas (A. Dickson & Sons, 1919): big, informal flowers of cheerful red. The plant is of splendid bedding habit, but not very free-flowering in midsummer.

Christine (S. McGredy & Son, 1918): clear yellow, with flowers closely resembling the fine old Harison's Yellow. A small, spreading bush, most valuable for bedding.

Comte G. de Rochemur (A. Schwartz, 1911): bright red which does not blue; blooms in big sprays, and is quite often good enough for cutting. It does not stop blooming in the summer as so many red roses do.

Duchess of Wellington (A. Dickson & Sons, 1909): marvelous, long, saffron-yellow buds, which open quickly to big, almost single, flowers. Until the advent of Souvenir de Claudius Pernet the best yellow rose, but it is too single and too weak in its flower-stems to maintain its place against the newer sorts.

Ecarlate (Boytard, 1907): very bright scarlet-crimson, semi-double, shapeless flowers, which do not blue but fade lighter. Tall, bushy plant which improves year by year. Preferred to Red-Letter Day (A. Dickson & Sons, 1914) because of its better blooming, but some of the descendants of Red-Letter Day may be still better. The most promising are K. of K. (A. Dickson & Sons, 1917), Red Cross (A. Dickson & Sons, 1916), Red Star (H. A. Verschuren & Sons, 1918), and Hawlmark Crimson (A. Dickson & Sons, 1920).

Friedrichsruhe (Türke, 1907): dark maroon, very double, with low, outspreading branches. Quite different from, but equally as dark as Chateau de Clos Vougeot.

Independence Day (Bees Ltd., 1919): flame color; very

striking. It seems to be the best of a number of roses of similar color, all of rather thin petalage, including: — Emma Wright (S. McGredy & Son, 1921), Mrs. Redford (S. McGredy & Son, 1919), Sunny Jersey (LeCornu, 1918), Severine (Pernet-Ducher, 1918), E. P. H. Kingma (H. A. Verschuren & Sons, 1919), and a dozen others, all of which present variations of the pink, apricot, yellow, and terra-cotta scheme. Mrs. Farmer (Pernet-Ducher, 1918) is very good, and, I am informed, much better liked by some abroad than Independence Day. Ariel (Bees Ltd., 1921) is claimed by the introducers to be better, and it does seem a little larger and perhaps a trifle deeper in color.

Isobel (S. McGredy & Son, 1916): the brightest of the "singles," that is, five-petaled roses, which many people like. Irish Elegance (A. Dickson & Sons, 1905) and Irish Fireflame (A. Dickson & Sons, 1913) are similar but a little lighter.

Killarney Queen (Budlong & Son Co., 1912): the brightest and most floriferous of the Killarney tribe. Brilliant, sparkling pink. Good growth and beautiful foliage.

La Champagne (Barbier et Cie, 1919): light, coppery-pink, yellow at base and lighter at edges of petals — much like Mrs. Arthur Robert Waddell but of better shape. An excellent rose, but little known here. Withstands hot weather well.

La Tosca (A. Schwartz, 1900): silvery-pink, large, loose, fluffy flowers. Tall, bushy growth, without thorns.

Lady Pirrie (H. Dickson, 1920): one of the very best decoratives. Coppery-pink and pale fawn-yellow, almost single; blooms in big sprays; lovely buds.

Lady Ursula (A. Dickson & Sons, 1908): splendid growth and blooming quality, but the flowers, although well shaped and properly carried, lack life and lustre. Nevertheless, it is one of the indispensable roses for garden decoration, for it is always in bloom.

Mme. Edouard Herriot (Pernet-Ducher, 1913): no longer so sensational as it was once because of its copper-pink and red-orange color. It is still useful for its floriferousness, and is probably better than nine tenths of the extravagantly advertised novelties.

Mme. Jules Bouché (J. Croibier & Sons, 1911): well-shaped, smallish flowers with pinkish centre. Attractive when cut, and especially free-flowering. A very good rose.

Mme. Ravary (Pernet-Ducher, 1899): dwarf growth, spreading laterally. Golden-fawn, almost single flowers, which fade rapidly. Superseded by newer sorts, but still a favorite of many growers.

Mrs. Arthur Robert Waddell (Pernet-Ducher, 1908): very much like Lady Pirrie, but a trifle more glowing pink in color and more open in flower. Hard to decide between them.

Mrs. Wakefield Christie-Miller (S. McGredy & Son, 1909): big, bouncing, peony-like flowers of the utmost decorative value; bright, light pink with deeper shadings. One of the most dependable roses, and one which becomes more deeply entrenched in favor year by year.

Padre (B. R. Cant & Sons, 1921): intense orange-red, almost single flowers, which are most brilliant and showy. The plant is tall, rather sparsely furnished with foliage, and does not bloom so freely as it ought; still it makes a stunning show when planted closely together in a large bed.

Radiance (J. Cook, 1908): beyond doubt, the best outdoor rose in America, — or anywhere else, probably. Extremely vigorous; very floriferous. Bright rose-pink flowers, which keep well when cut. Its sport, Mrs. Charles Bell (Mrs. Charles Bell, 1917), is equally good. It may not bloom so much as Radiance, but its color is so greatly superior that the account is more than squared. Red Radiance (Gude Bros., 1916) is bright carmine-

red, and, if anything, better in growth and bloom than its parent.

Robert Huey (A. Dickson & Sons, 1911): light-red or deep-pink flowers of loose form. Its chief virtue is its free-flowering habit in hot weather, when other roses are out of flower or not at their best. An excellent sort which is not half so well known as it ought to be.

Serge Basset (Pernet-Ducher, 1918): smallish garnet-red flowers, double and sweet. A low, bushy plant, always in flower. It is a splendid bedding and massing rose.

Following are a few roses noteworthy for extreme beauty or other virtues. All of them have major faults as garden roses and require special care, but they are worth it: —

Admiral Ward (Pernet-Ducher, 1915) and Laurent Carle (Pernet-Ducher, 1907), while not alike, are both dark-red, very beautiful roses, but shy-blooming and weak in growth.

Cheerful (S. McGredy & Son, 1915): bright orange-pink and very beautiful, even when faded. Short, stubby growth and rather susceptible to black-spot.

Chateau de Clos Vougeot (Pernet-Ducher, 1908): dark velvety scarlet, — darkest of roses, — and very fragrant. Queer, lopsided growth, spreading laterally. Rotelfe (Tantau, 1922) is very similar in color, but just a trifle lighter. The plant appears to be much stronger and more erect.

Francis Scott Key (J. Cook, 1913): a rose worth growing for the whole year just to get one flower. It is magnificent in size and form, but quite often of very poor, washed-out, crimson color, and it frequently balls badly.

Commandant L. Bartre (A. Schwartz, 1919): intense and most satisfying fragrance, but weak in its light-red color, and it balls badly in heat. Good growth and most prolific flowering.

Gladys Holland (S. McGredy & Son, 1917): beautiful waxy petals of buff and pink. Incomparable form, but weak-growing and shy-blooming.

Golden Emblem (S. McGredy & Son, 1917): deep golden-yellow with crimson on the buds. Undoubtedly the most beautiful yellow rose, but so erratic in behavior that it cannot be trusted.

Hoosier Beauty (F. Dorner & Sons, 1915): dark, glowing red, with angular petals. One of the finest roses, but it produces only a few flowers in a season, and they often fade badly.

Jonkheer J. L. Mock (M. Leenders & Co., 1909): magnificent deep-pink blooms, with sharply contrasting shades of silvery pink. Balls very badly and scarcely ever opens a perfect flower, but when that happens it is an event.

Kaiserin Auguste Viktoria (P. Lambert, 1891): the perfect white rose, but of so poor growth and so little bloom that it tries the patience to the breaking-point.

La France (Guillot, 1867): pretty, silvery pink, but most prized for its unsurpassed fragrance. Blooms very sparingly.

Los Angeles (Howard & Smith, 1916): gorgeous salmon-pink and yellow, highly perfumed and perfectly formed flowers, but an ill-behaved, untrustworthy plant. Under favorable conditions it is superb.

Mme. Marcel Delanney (M. Leenders & Co., 1916): soft pink flowers of exquisite form, with the most tender nuances of color. Foliage is rather bad, but it is a fairly good rose at that.

Mme. Melanie Soupert (Pernet-Ducher, 1905): one of the most splendid large roses in existence. Its coppery-yellow buds are unsurpassed, but the open flower is not so good. It is rather tender in severe climates.

Mrs. Ambrose Ricardo (S. McGredy & Son, 1914): pale pink,

with an incurved peachy centre; gigantic size. Excellent for cutting. Foliage weak, and it does n't bloom enough.

Mrs. MacKellar (A. Dickson & Sons, 1915): delicately modeled, tapering buds, but the open flower is bad. Plant not strong, and rather tender.

Souvenir du President Carnot (Pernet-Ducher, 1894): perfect flowers of a rare shade of very light pink. Bloom is sparse and the growth very poor.

The Queen Alexandra Rose (S. McGredy & Son, 1918): bizarre, — red on inside and yellow on outside of petals. Growth is poor and the flowers nod. The colors are often blurred.

William Shean (A. Dickson & Sons, 1906): remarkable for its long buds and great depth of flower. Not notable in any other respect, and it does n't bloom very much.

It is impossible to close this chapter without taking cognizance of a few of the new roses. The rose-connoisseur finds keenest pleasure in trying out new sorts and sifting the good from the bad. About one hundred and fifty new kinds come into commerce each year, and it is hopeless for the beginner or the person with limited space to test a small fraction of them. Nevertheless, it is as hard to resist the lure of the novelty in roses as in other things, and even the smallest garden may spare space to try a half-dozen or so each year. The *American Rose Annual,* published each spring by the American Rose Society and sent free to its members, carries a complete digest of all the new roses in the world, with the opinions of experts upon them. It ought to be consulted by anyone who wants to try the new things. The few mentioned below have seemed good to me, either by brief testing or from reports of friends who have observed them abroad. A good many very new kinds have been described in the previous lists, and with the following

should be kept in mind, because most of them will be prominently offered in American catalogues within the next few years.

Angele Pernet (Pernet-Ducher, 1924): brownish-orange, almost single flowers. Unique and attractive.

Captain Ronald Clerk (S. McGredy & Son, 1923): very large single flowers of brilliant orange-scarlet.

Constance Casson (B. R. Cant & Sons, 1920): said to be better than Rev. F. Page-Roberts, which is high praise.

Elizabeth Cullen (A. Dickson & Sons, 1921): reported to be one of the very best new red roses.

Elvira Aramayo (P. J. Looymans & Co., 1922): much like Padre. A bedding rose only; very brilliant.

Fred J. Harrison (A. Dickson & Sons, 1924): bright-red, ruffled flowers. Very promising on one year's trial.

Gwynne Carr (A. Dickson & Sons, 1924): a good pink, but does n't seem very different from many others.

Josephine Thomas (Howard & Smith, 1924): similar to Lady Ursula; not very distinct, but may be better on more extended trial. Two other American roses, Imperial Potentate (Clarke Bros., 1921) and Felicity (same firm, 1920), are promising pinks, but not widely distributed as yet.

Lady Inchiquin (A. Dickson & Sons, 1922): vivid orange-cerise, heralded as a rose of incomparable splendor.

Lord Charlemont (S. McGredy & Son, 1922): the only serious rival of Etoile de Hollande. John Russell (Dobbie & Co., 1923) is also a gorgeous red, but scentless. Bedford Crimson (Laxton, 1925) is reported to have the fragrance that John Russell lacks.

Mrs. J. Heath (S. McGredy & Son, 1924): a splendid new sort of the Ophelia type. Highly recommended.

Mrs. Henry Bowles (Chaplin Bros., 1921): considered the

best pink rose abroad, and those who have seen it confirm the opinion.

Marcia Stanhope (Lilley, 1922): pure white, very fragrant.

Odette Foussier (Chambard, 1924): reported to be the finest of the new terra-cotta roses.

O. Junyent (Pedro Dot, 1924): pretty, ruffled flowers of bright orange-pink, said to have the habit of Frau Karl Druschki when established. Mari Dot (Pedro Dot, 1927) is another Spanish rose of similar type, which promises well.

President Cherioux (Pernet-Ducher, 1922): orange-cream and pink — one of the finest new roses I have seen.

Reveil (G. A. van Rossem, 1924): a most marvelously colored rose of red and yellow.

Shot Silk (A. Dickson & Sons, 1924): satin-pink and yellow. Not extraordinary on one year's trial.

Victor Teschendorff (Ebeling, 1919): a Frau Karl Druschki with yellow buds and creamy flowers.

W. E. Wallace (H. Dickson, 1922): splendid pale yellow, which has done well on one year's trial.

Wilhelm Kordes (W. Kordes Söhne, 1922): gorgeous apricot and orange; a fine upstanding flower.

## VI

## POLYANTHAS, CHINAS, AND BOURBONS

Polyanthas existed in several varieties for many years, but their popularity dates from the introduction of Mme. Norbert Levavasseur in 1903. This rose, in type of flower and clustered inflorescence, so much resembled the popular Crimson Rambler that it was given the pet name of Baby Rambler, and all varieties of similar habit have borne that name since.

The Polyanthas are not Ramblers, although they are derived from the original Rambler type, *Rosa multiflora.* The names *polyantha* and *multiflora* are Greek and Latin botanical words respectively, both meaning "many-flowered." They are dwarf, practically everblooming plants, bearing clusters of double or single flowers. As roses, their value is almost zero, but as colorful, everblooming plants or shrubs they merit considerable notice. Their constant bloom and compact, even growth compensate a great deal for their papery texture and uninteresting type of flower.

It would be a sad waste of space in the little garden to make beds of them as of Hybrid Teas, for in the little garden there can hardly be much land to spare. Their place is in the border around the little rose-garden; as an edging to paths; or in front of taller roses such as the Hybrid Perpetuals or Rugosas. They make a striking low hedge, and are delightful as a finishing edge to a group of leggy shrubs. A splendid border for a formal pool can be made of them, or they look well set back from the edge of an informal pool, leaving the brink to stones and rock-plants.

For permanent color effect there is no rose — nor, in fact, any other plant — that can approach them, but it must be understood that, with rare exceptions, they are worthless individually and must be used in masses to get a good effect.

Since the tradition against planting roses with other flowers is breaking down, I have thought that perhaps Polyanthas will mix with annuals and perennials more cheerfully than other roses. Several charming combinations of the sort have been observed recently, and it is worth trying out on a larger scale.

There are several well-defined types in this class, including a comparatively large-flowered group which is quite attractive. Of these, Gruss an Aachen and possibly Frau Dr. Erreth are fairly good as roses, and beds of them would be acceptable among the Hybrid Teas. The fact is that the only reason those varieties are acceptable for that purpose is because they diverge so far from the true Polyantha type that they are almost Hybrid Teas.

The exquisite Cécile Brunner is the nucleus of a small group which is very much worth while. Those of this type are generally taller than the others, and are characterized by small, perfectly formed, miniature roses of the utmost delicacy and finish. They are produced in diffuse, branching clusters, and much less freely than the other types.

The commoner sorts are adequately described by the popular name, Baby Rambler — Baby because they are dwarf and Rambler because they are very similar in flower to the old-time *multiflora* ramblers, of which Crimson Rambler is the best example. This class of Polyanthas cannot pass out of cultivation too soon for me.

The following sorts have come under my observation from time to time. A number I have grown and like, but some of them I would n't have on the place. Perhaps that is an

unjustifiable prejudice. I include them because they have found favor in the eyes of other rose-enthusiasts: —

Ænnchen Müller (J. C. Schmidt, 1907): rather tall, and distinguished among Polyanthas for its large, frilly, narrow-petaled flowers of brilliant pink, in splendid clusters. It will reach three feet easily, and is a splendid representative of the class.

Cécile Brunner (Mme. Ducher, 1881): exquisitely formed miniature rose of very pale pink, with a carmine spot or two and a faint touch of yellow. It blooms rather sparingly, and the plant is not always very vigorous. There is a climbing sport which is reasonably hardy and much more satisfactory, although it requires heavy protection where winters are very cold.

Chatillon (Nonin, 1923): the flowers are brilliant pink with an orange glow, and are borne in enormous clusters. They discolor badly with age, but in well-kept gardens the faded blooms are cut off at all times, so that does n't matter. It is my choice of the light-pink Polyanthas for low masses.

Corrie Koster (Koster, 1923): the prettiest, daintiest, soft salmon-pink imaginable, but outdoors the blooms have so far appeared abortive and discolored. Perhaps time will improve it.

Dorothy Howarth (Bees Ltd., 1921): somewhat like a double apple-blossom, but the flowers are larger, and fall off when faded instead of disgracing the plant with their remains. The clusters are neither compact nor large, but very pretty.

Eblouissant (E. Turbat & Co., 1918): nearly double flowers, with narrow petals arranged somewhat in the fashion of tiny cactus dahlias, deep blackish-scarlet with a velvety sheen. The plants need to become established before they are good, and the foliage is somewhat subject to disease.

George Elger (E. Turbat & Co., 1912): orange buds and exquisitely formed blooms of pale yellow, fading white. A very good yellow of the Cécile Brunner type, but less hardy than the

*Polyanthas in the foreground. The varieties are Ennchen Müller and Orleans*

*(Hybrid Teas and a border of Hardy Climbers may be seen in the distance)*

others, and it has seldom survived the winter for me. Perle d'Or (Dubreuil, 1888) is similar, but even more tender.

Evelyn Thornton (Bees Ltd., 1919): single or nearly single flowers about an inch and a half across; pale pink and yellow, borne in very large branching clusters. To my mind it is the most beautiful of all Polyanthas before the charming color fades. It is a very much improved Eugenie Lamesch (P. Lambert, 1899), from which it is descended and from which it has inherited a weakness of foliage.

Frau Dr. Erreth (Geduldig, 1915): deep-orange double blooms, much resembling Mrs. Aaron Ward and, like it, fading to white when fully open. Very large and attractive for a Polyantha.

Frau Rudolf Schmidt (R. Schmidt, 1919): light garnet-red of a very attractive shade. Baby Rambler type. Tried only one season, but I like it.

Gruss an Aachen (Geduldig, 1909): a Polyantha only in name. The very double blooms are as large as those of the Hybrid Tea, Mrs. Aaron Ward, or larger. Its color is variable, being reddish-yellow in the bud and rather pinkish-yellow when open. In hot weather it fades dead-white and is not attractive. It is excellent for massing and may be used as a cut flower in a pinch.

Gwyneth (R. Woosnam, 1923): rich, deep-yellow, almost single flowers, which fade lighter. It has been tried only one season, but promises to be the long-wanted yellow Polyantha.

Ideal (J. Spek, 1920): small, dark, velvety, crimson flowers, borne in tremendous compact clusters. It is darker than Miss Edith Cavell (Meiderwyk, 1917), which it closely resembles in other respects, and it blackens with age. Very different from Eblouissant.

Katharina Zeimet (P. Lambert, 1901): white, very double flowers, that scorch badly in hot weather; but it is quite the

best white Polyantha I have seen. Mrs. Wm. G. Koning (Kluis & Koning, 1916) is also a good white, especially in the autumn; but the most promising new sort is Eva Teschendorff (Teschendorff, 1923), which has large, ruffled, white flowers with a greenish base.

Lafayette (Nonin, 1921): large semidouble flowers of light, fadeless red. Most persistent in bloom and extremely attractive. It makes a splendid mass effect and is really a top-notch variety.

La Marne (Barbier & Co., 1915): clear light pink with a white centre, cupped, and very long-lasting. The clusters are so diffuse that it does not make the mass effect of Chatillon — neither is it so ugly when it begins to fade. Two new sorts, Alice Amos (J. Spek, 1922) and Pink Delight (Laxton, 1922), are highly regarded abroad, and from descriptions seem to be somewhat similar to La Marne.

Marie Pavic (Alégatière, 1888): a trifle larger in growth and flower than Cécile Brunner, and a more solid, light pink. Very good, if not the best, of its type.

Mme. Anth. Kluis (Kluis & Koning, 1924): almost single, bunch-flowered type; brilliant red, with an orange undertone. I like it.

Orange King (Cutbush, 1923): a rather weird color for a Polyantha; it is really orange and terra-cotta, although very likely to fade out to green. The flowers are insignificant, very tiny, and mostly malformed and papery.

Orléans (Levavasseur & Sons, 1910): a standard sort, similar to but better in some respects than a host of others. Its clear bright red is very attractive on opening, but most hideous in its later stages.

Tip-Top (P. Lambert, 1909): a very charming combination

of yellow, pink, and white in the bud, but the open flowers are white or pale pink and without form. It is rather tender, and such a poor grower that I consider it almost worthless.

In 1789 two everblooming roses arrived in England from China. These were the Crimson Chinese rose, and the Chinese or Monthly rose, known botanically at that time as *Rosa semperflorens* and *Rosa indica*, respectively. The Chinese Monthly roses soon became known as the Bengals, and the Crimson Chinese roses, being hybridized with the Damasks and Centifolias of that day, gave rise to the Hybrid Chinas, which are to-day practically indistinguishable from the Hybrid Perpetuals. In fact, General Jacqueminot is sometimes classed as a Hybrid China, although that may be confusion resulting from the fact that there was a Chinese rose of that name extant many years ago.

The old botanical classification is now discarded, the two forms being considered as subspecies of *Rosa chinensis;* and both classes are properly called China roses. They vary considerably in growth, the *semperflorens* type being small, wiry bushes with reddish leaves and shoots, and the *indica* more erect, with green wood and larger leaves. The flowers of both are double or half double, and produced unceasingly. They are the Monthly roses which grew in the gardens of a generation or two ago. They are nearly as hardy as the Hybrid Teas, and some may be even hardier. As a class they are unimportant to-day, but a few linger in catalogues and in gardens where old things are cherished.

Bourbon roses are a division of the Chinas. They originated about 1817, on the Île de Bourbon, from which seeds were sent to the royal gardens in Paris. They were soon blended

with the Chinese, the French, and the Provence roses, and formed a type known as the Hybrid Bourbons, which, with the Hybrid Chinas, are merged in the Hybrid Perpetuals.

It is extremely difficult now, when the pure types of these roses have passed almost out of cultivation, to distinguish between them, and for that reason both kinds are included in the following list, the class being stated on the authority of the originator when it is known.

Apolline (Bourbon — V. Verdier, 1848): pretty cupped flowers of light pink, and quite a husky plant. Hardly deserves a place in the little garden except as an antique.

Birdie Blye (Hybrid Bourbon — Dr. Van Fleet, 1904): I am deliberately disregarding all authorities in calling this rose a Bourbon, but it looks more like a Bourbon than anything else and acts more like one. It is deep pink, double, cupped, very fragrant, of fairly tall growth, — 4 to 5 feet, — usually in bloom all the time, and one of the very best bush-roses there is, being strictly in the class with Gruss an Teplitz.

Chin-Chin (China — Hobbies, 1909): quite a nice yellow rose of small size. There are a number of yellow and orange shades blended in the modern Chinas; of these the best is Comtesse du Cayla (P. Guillot, 1902), which is a low, spreading plant with coppery flowers, and almost always in bloom. Mme. Laurette Messimy (Guillot fils, 1887) and Mme. Eugène Resal (P. Guillot, 1894) are similar, but of course a little different from each other.

Cramoisi Superieur (China — Coquereau, 1832): a fine dark-red China of the best type, hardy, and has grown well for me; fine for buttonholes. It is sometimes called Agrippina. Similar to it is Fabvier (Laffay, 1832), which is lighter and more dazzling red; attractive and desirable. Sanguinea is supposed to be the original *Rosa semperflorens* itself, and is said to make fine hedges in temperate climates. In this class also goes Louis

Philippe (Guerin, 1834), which has taken possession of gardens in Florida to such an extent that it is sometimes called the "Florida rose." Lucullus (Guinoisseau, 1854) is another.

Ducher (China — Ducher, 1869): pure white, double, and well formed for a China. The best white one I know.

Gruss an Teplitz (Hybrid China — Geschwindt, 1897). As in the case of Birdie Blye, I am altering the classification of this rose. It is generally catalogued as a Hybrid Tea, which it most certainly is not. It is absolutely the finest decorative bush-rose that grows, blooming everlastingly in clusters of dark-red, intensely fragrant flowers. They are not worth much for cutting because they droop, but there is nothing to equal this variety for garden decoration, as a low hedge, as a background to other roses, or in masses. Similar to Gruss an Teplitz is Eugène E. Marlitt, generally called a Hybrid Bourbon (Geschwindt, 1900). It is a trifle lighter in color and not quite so vigorous or hardy, but a splendid companion sort for all that.

Hermosa (Bourbon, but generally admitted to be part China — Marcheseau, 1840): smallish, uniformly perfect flowers with recurved petals. A continuous and prolific bloomer. Its cheerful, fresh pink blossoms have brightened gardens for nearly a century. It is one of those lovely things that never die.

Mrs. Bosanquet (Bourbon — Laffay, 1832): white flowers tinted with flesh-pink and cream. A very pretty rose which grows well in pots. It is not very decorative in the garden, because the flowers droop; but they are charming.

Old Blush (China — Parsons, 1796): pale pink, deepening with age. It corresponds so exactly with other roses which I have received under the names of Pink Daily and Monthly Cabbage that I believe they are identical. It is jolly and cheerful, very hardy, and never out of flower. In warm regions it ought to make an exquisite hedge- or massing-rose.

Queen Mab (China — W. Paul & Son, 1896): more like a thin Hybrid Tea than a China, but the yellow Chinas are all more or less mixed with other types. Titania (W. Paul & Son, 1915) is a little more orange in color, but otherwise very similar.

Souvenir de la Malmaison (Bourbon — Béluze, 1843): pale silvery pink, and just about the sweetest of all old roses. Its fragrance is a delight and the shape of its flowers a miracle. They are often quartered and divided; but that is what I mean. Quartered roses are beautiful if one likes them that way, and that is the way I like Souvenir de la Malmaison. It is somewhat tender, and it often goes to sleep for long periods and will not bloom, but it is usually fine in the fall. It is a good rose to teach one patience.

Of the foregoing varieties of Chinas and Bourbons the only really important ones are Birdie Blye, Gruss an Teplitz, Hermosa, and Souvenir de la Malmaison. The others are interesting in collections or in borders of many similar varieties, but the little garden can get along with very few or none of them. They are described here in order that the uninformed rose-grower may know what sort of roses they are, because they are still listed in catalogues and are frequently mentioned in books about roses.

## VII

## CLIMBING ROSES

If the little garden is very little, there will not be room in it for many climbing roses. They are large plants and require much training and pruning to keep them in manageable proportions. Nevertheless, they are so beautiful that room must be found for a few.

Trained as pillars, they occupy the least space; and for special columnar effects, or used as isolated specimens, pillar roses are quite perfect. A pillar is made by setting a climbing rose at a well-anchored stake or post six to ten feet high. The long canes are trained around the support, or tied straight up to it and cut off at the top. From these canes, next season, a profusion of blooming spurs appear, clothing the pillar from top to bottom with a mantle of flowers.

Where a low dividing-line is wanted, climbing roses may be planted ten feet apart in the row, raising a pillar at every other one and training the intervening plants on low horizontal wires.

Of course they can be trained upon wooden fans or lattices, if one likes that sort of thing. They may even be trained on porches, which, after all, is n't a bad thing to do. I know a porch completely embowered in climbing roses, and it is a cool and comforting place. The spaces between the porch columns are covered with large-meshed chicken netting, which is next to invisible after the whitish coating has worn off. The roses are easily trained upon the netting, but it is extremely difficult to extricate dead and undesirable canes. It can be done somehow; and it may just as well be made plain that whoever likes

and handles roses, climbing roses in particular, must learn to endure punishment.

Never — as the household pages say — train climbing roses on the sides or back of a seat which is intended to be used. Rent clothes, torn skin, and a lacerated temper are bound to follow. Even thornless roses, like Tausendschön, occasionally bear an accidental prickle which is sure to be where it ought not to be.

Climbing roses revel on walls, but it is poor economy to train them upon the side of a wooden house. It is a breakneck job to tie them up; spraying damages the paint; dirt and dead leaves collect near the ties; screws, tacks, nails, staples, and other hardware ruin the weatherboarding. A stone wall is better; on such a support they spread out to their fullest extent and really show the stuff they are made of.

With a little skill in staking and tying, they may be trained as balloons, as umbrellas, as big, fountain-like bushes, and in many other shapes. All special forms, if well done and not kept too formal, are good for roses, but they require plenty of space to show up well. Arches are obvious, but both sides of the arch should be planted with the same variety. A thick, impenetrable hedge can be made of climbing roses by tying in the canes and by judicious use of the shears. In fact, they are good hedge-plants, good climbing plants, and good shrubs, suitable to all uses to which such plants may be put.

Without exaggeration it may be said that there are as many different types of climbing roses as there are types of all other roses combined. The confusion resulting from such a multitude of forms is largely obviated by broadly classifying them as Tender Climbers and Hardy Climbers.

The Tender Climbers include climbing sports of the bedding roses, Climbing Hybrid Perpetuals, Hybrid Teas, Teas, Polyanthas, Bourbons, and Chinas, all of which are usually ever-

blooming in favorable climates; also the important group of Noisettes, which is closely allied to the Teas; the Banksias; the Bracteata group; the Cherokees; the new Giganteas, and others; none of which is reliably hardy where the thermometer falls to zero.

Tender Climbers are worthless in the North, because it is impossible to protect them adequately from cold. Their bloom is largely borne on secondary shoots from wood one year old. There is no bloom when they freeze to the ground in winter. They belong to the South exclusively, and that is a good thing. It would be tiresome, indeed, if roses were standardized like automobiles, suited to all climates and conditions. It is right and proper that Southern roses should be very different from Northern roses. The pity is that Southern gardens seem to prefer the better-advertised hardy types, and try to grow them in a climate for which they were not intended, neglecting the lovely Teas and Noisettes which are their peculiar heritage and treasure.

I have never succeeded with Tender Climbers in the latitude of Pittsburgh, even with most carefully devised protection. The following varieties are described from information received from other sources: —

Climbing Maman Cochet (Tea) and any of the Climbing Teas and Climbing Hybrid Teas found in good catalogues. Generally the flowers of the climbing sports are identical with the original dwarf varieties, and almost any dwarf Tea or Hybrid Tea can be had in a climbing form. It should be understood, however, that they are usually sparse in bloom.

Gloire de Dijon (Tea — Jacotot, 1853): very double flowers of buff and pink; strong, dependable, and the hardiest. This is one of the most famous and desirable of roses.

Maréchal Niel (Noisette — Pradel, 1864): the most illus-

trious of all yellow roses; fragrant and very beautiful. It is too tender for Northern gardens, but does well in greenhouses.

Reine Marie Henriette (Hybrid Tea—Levet, 1878): bright-red flowers, well formed and fragrant. Very vigorous; hardy as a dwarf Hybrid Tea.

Rêve d'Or (Noisette — Ducher, 1869): deep golden-yellow. Very tender.

William Allen Richardson (Noisette — Mme. Ducher, 1878): orange, apricot-yellow, and buff, small-flowered, and variable in color. Fairly hardy in sheltered situations.

The Climbing Polyanthas are hardier than most other everblooming climbers, and are attaining recognition in rather severe climates. They are not dependable, and — except Climbing Cécile Brunner, which is exquisite — they are too much like the dwarf Polyanthas to be very desirable.

The new class of Giganteas is attracting attention, but there are scarcely any of them obtainable in this country. Belle of Portugal (Lisbon, 18—) is excellent in California, and Comtesse Prozor (Nabonnand, 1922) is catalogued by at least one nurseryman. Such varieties as Emmanuella de Mouchy, Fiametta, and Noella Virebent, all introduced by Nabonnand in 1922, and Flying Colors, Golden Vision, Harbinger, and other Australian sorts, sent out by Alister Clarke in 1924, are not yet obtainable in America.

A splendidly lovely thing is Mermaid, a Hybrid Bracteata, with very large waxy flowers of purest white. It was introduced by W. Paul & Son in 1918, and has proved hardy in northern New Jersey.

The Hardy Climbers are not everblooming, but they provide one superb display for several weeks in late spring and early summer. They vary considerably in hardiness, and it is best

to provide protection for all of them where the thermometer remains below zero very long in ordinary winters. Some of them have withstood fifteen degrees below zero for me, but it is unsafe to rely upon their continued ability to do so.

Most of these Climbers are descended from *Rosa Wichuraiana*, which has developed a small, bunch-flowered class, an intermediate type with rather large flowers in bunches, and a large-flowered group with blooms like the Hybrid Teas. Some of them are derived from *Rosa multiflora*. They are coarser, with larger foliage and stiffer canes. A few other types linger in catalogues, but they are quite unimportant.

There are hundreds of varieties, and it seems best to divide them into certain well-defined groups, choosing the most distinct in each group. The small-flowered, bunch-flowering types contain many sorts very much alike, but of the ones which have single flowers the following are distinct: Hiawatha (Walsh, 1904), dazzling carmine-red, with a brilliant yellow eye; Milky Way (Walsh, 1900), pure white; Evangeline (Walsh, 1908), and Paradise (Walsh, 1907), which are similar, but of different shades of pink. These four varieties are strong, slender-growing, late-flowering, and ideally suited to arches, gateways, pergolas, and summer-houses; and because of their peculiar dainty and airy aspect, they are particularly appropriate for rustic or natural planting effects, where double roses would be too fussy.

Of the double bunch-flowered type, Dorothy Perkins (Jackson & Perkins, 1902), shell-pink; Lady Godiva (Paul & Son, 1908), light pink; Excelsa (Walsh, 1908), bright crimson; and White Dorothy (B. R. Cant & Sons, 1908), white, are most distinct. All flower late. There are dozens of others, but they are all variations upon the same theme. The eight mentioned provide variety enough for the little garden, unless one wishes to specialize in small-flowered ramblers.

Of the intermediate type, combining fairly large flowers with respectable clusters, the following are good: —

Aviateur Blériot (Fauque & Sons, 1910): saffron-yellow, fading white. Beautiful, but needs a sheltered situation. It blooms about the middle of the season. Its flowers are yellower than those of Alberic Barbier (Barbier & Co., 1902), an early-flowering sort, but they are not so well shaped. It is a little yellower and less hardy than Gardenia (Manda, 1899), a mid-season sort, but is not so rampantly vigorous. All three have lovely foliage and beautiful flowers, but they are truly yellow only in the bud.

Bonnie Prince (T. N. Cook, 1918): white, half-double, ruffled flowers of attractive and different form. With Tausendschön (Schmidt, 1906) and Roserie (Witterstätter, 1914), it forms an early-flowering trio of white, light-pink, and dark-pink roses of similar form and habit. These three are of the Multiflora class.

Dr. Huey (Captain Thomas, 1914): dark crimson-maroon and scarlet, semidouble flowers, showing a brilliant golden centre; blooms in midseason, lasting a long time. It makes a splendid pillar, and retains its color under most unfavorable circumstances. Unique and indispensable.

Emily Gray (Dr. Williams, 1918): soft buff-yellow, almost golden color which is well retained; midseason; extremely handsome foliage. It would be the ideal, long-sought, yellow climbing rose if it withstood zero weather, but it needs protection north of Washington, D. C.

Paul's Scarlet Climber (W. Paul & Son, 1916): dazzling scarlet, fading to light tomato-red; flowers are well formed, and the plant is especially healthy, but does not make very tall growth. Midseason. It is so popular that there is danger of its being as much overplanted as the unlamented Crimson Rambler.

Purple East (W. Paul & Son, 1901): this is a Multiflora of a

*A Hardy Climbing Rose (Tausendschön) trained as a pillar*

most agreeable crimson-purple shade. It is especially valuable because it blooms so early.

Of the large-flowering Wichuraianas, the following are recommended: —

Albertine (Barbier & Co., 1921): so new that only a few flowers have been seen, but they promise most astonishing coppery-yellow and soft pink shades. The plant has splendid foliage and grows well. Midseason.

Bess Lovett (Dr. Van Fleet, 1905): light-crimson, large, fragrant, cupped flowers; late blooming. Very strong — almost too much so for a pillar.

Climbing American Beauty (Hoopes Brothers & Thomas Co., 1909): brilliant, shining carmine, marvelously beautiful and fragrant flowers. The plant is not a robust climber and does best as a pillar, which makes it easy to cut off the faded flowers that usually disfigure it. Very early.

Coralie (W. Paul & Son, 1919): coral-red buds and salmon- or orange-pink double flowers of a unique and lovely color. It is not a very free bloomer, but decidedly worth while. Midseason.

Dr. W. Van Fleet (Dr. Van Fleet, 1910): probably the finest of all climbers. Flowers are pale pink which deepens as the season advances; late blooming. Very vigorous, and needs plenty of space. Splendid long sprays of bloom for cutting are produced by the hundred on well-grown plants.

Jacotte (Barbier & Co., 1920): even deeper in color than Albertine or Coralie; still so new in this country that it has not been tested, although everyone who has seen it abroad likes it tremendously. Midseason.

Mary Wallace (Dr. Van Fleet; introduced by the American Rose Society, 1923): brilliant pink, with a yellow underglow; vigorous, and a splendid rose even in abominable weather;

midseason. Richer in color than Alida Lovett (Dr. Van Fleet, 1905), also a midseason sort, and better in form than Christine Wright (Hoopes Brothers & Thomas Co., 1909), a very early variety; and it grows better than both.

Miss Helyett (Fauque & Sons, 1909): very large flowers, fully double, light-pink, shaded yellow. Extremely early, but not profuse in bloom.

Romeo (Easlea, 1919): light-crimson, marvelously shaped buds and flowers, on an ideal pillar-plant; midseason. Quite new here, tested only one year, and is very distinct and most promising.

Silver Moon (Dr. Van Fleet, 1910): very large, nearly single, waxy-white blooms with a shining yellow centre; rather early. Enormous growth and splendid, varnished foliage. More beautiful than Purity (Hoopes Brothers & Thomas Co., 1917), but not quite so hardy. It needs protection in severe climates.

There are a few other sorts which deserve special mention: —

American Pillar (Dr. Van Fleet, 1902): single, rather large flowers in gigantic clusters; midseason. Bright crimson-pink with a white eye. It makes enormous growth and needs plenty of space. Île de France (Nonin, 1922) is said to be similar, but of more brilliant red.

Carmine Pillar (G. Paul & Son, 1895): classed as a Climbing Hybrid Tea, but hardier than some of the Wichuraianas. Large single flowers of brilliant carmine with golden centres; very early, and highly desirable.

Ghislaine de Feligonde (E. Turbat & Co., 1916): pale-orange buds and small, buff-yellow flowers which fade white, although the clusters maintain a distinctly yellow effect; early, and almost everblooming, producing a few flowers up to the approach of autumn. Very charming.

Gruss an Freundorf (Praskac, 1913): almost the color of Dr. Huey, in the semidouble, small-flowered group. Very desirable for its fadeless color and wealth of late bloom.

Heart of Gold (Dr. Van Fleet; introduced by the American Rose Society, 1925): dark-crimson, single flowers with a white eye and golden stamens. Beautiful, but suffers in hot weather.

Mme. Sancy de Parabère (Bonnet, 1875): light-rose, large flowers; very early and extremely hardy. This is a Boursault rose, perhaps the last of its type in general American commerce. The foliage is lost early in long seasons. It is especially good for regions of rugged winters.

Star of Persia (Rev. Pemberton, 1919): bright yellow, of permanent and enduring hue. Blooms early, in big clusters of semidouble flowers two inches or more in diameter. The plant is hardy in central Pennsylvania, growing ten feet or more. We all hope it is the long-wanted yellow climbing rose. Le Rêve (Pernet-Ducher, 1923) is a semidouble sort, also reported to be a yellow climber, but its winter hardiness is untested and I have not seen its flowers.

Zephirine Drouhin (Bizot, 1868): an old-time Bourbon rose of glorious pink and deliciously fragrant. It is practically thornless, has beautiful bronzy foliage, blooms very early — and sometimes again in midsummer or fall. It is a most admirable and desirable rose, but its hardiness is doubtful in regions of very severe winters.

## VIII

## SHRUBS AND MISCELLANEOUS ROSES

Roses are seldom thought of as shrubs, yet, botanically, all roses belong to that classification of plants. To almost everybody roses have come to mean cut flowers, procured from the florist with an outlay of considerable cash or from the garden by the expenditure of more or less pleasurable labor. The rose family is very large, and besides the more or less unattractive plants which produce the gorgeous blooms we so much desire there are a great many species and intermediate forms that are good, wholesome shrubs. They make small claim upon the little garden as roses, but they do deserve consideration in comparison with other shrubs and bushes.

There is no place for single or semidouble shrub roses in the rose-garden proper, where attention is focused upon the individual flowers; but used as forsythias and spiræas are used, the shrub roses are beautiful and unusual plants. This angle of rose-growing opens upon a field of gardening and garden decoration which is largely unexplored. A great deal of real adventure lies before the hardy spirits who will pioneer with the new shrub roses, now being introduced in increasing numbers.

While many of the climbing roses are suited for shrub use, there are other types much easier to control. Of these the Rugosas demand first attention.

It is difficult to discuss the Rugosas without being misunderstood. When one expatiates upon their utter hardiness, excel-

lent growth, perfect foliage, perfume, and everblooming habit, the reader may be misled into filling up his garden with them — a proceeding fraught with disappointment and disaster. *Rosa rugosa*, the original species, is a native of the northern islands of Japan and the peninsula of Kamchatka. Above all things, the Rugosa race is hardy and a voracious devourer of space, spreading by underground rootstocks in an effort to possess the earth. There are dwarfish forms which fit accommodatingly into the small shrubbery border, but even they require watching lest they usurp the territory of other plants. Schneezwerg (P. Lambert, 1911) is one of the best of these. It is rather branching in habit, with pretty, semidouble, white flowers illumined by a bright-yellow centre. It does not bloom so freely as some in the summer, but its foliage and bright-red berries are very attractive. F. J. Grootendorst (DeGoey, 1918) is unique, with the strong, coarse foliage of Rugosa and the cluster-blooming habit of the Polyanthas. Its flowers are steadily produced through the season and resemble clusters of small red carnations. It can be kept about four feet high.

Where there is an unused corner, for hedges, or to conceal ugly backgrounds, the taller kinds are valuable. The two forms of the original species, *Rosa rugosa* — designated respectively as *alba* and *rubra* — are best. The large, single flowers are soft and crêpe-like in texture, differing from all other roses. The plants commence to bloom in late spring and are seldom without flowers until freezing weather. After midsummer their clusters of scarlet, crimson, and orange fruits, as large as marbles, adorn the bushes in big, bold clusters.

The flowers of almost all the double varieties are coarse and blowzy, and they abound in purple-rose or magenta shades which are quite trying. For windy hillsides, rocks, and beach sand they are excellent and in place, but they are outlandish

in the tiny garden, where every plant must contribute grace and beauty.

There are exceptions. Conrad Ferdinand Meyer (Müller, 1900), light pink, and Nova Zembla (Mees, 1907), blush-white, have nobly formed flowers of excellent color and texture, and their foliage is less exotic — but their growth! Twenty feet means nothing to them and ten may be expected. As tall, quickly growing bushes, to hide an abutting garage or to seclude a section of the garden, they are useful. They also make an excellent unsupported arch by merely tying the long canes together. Neither is so hardy as the type, and both may be killed by sub-zero temperatures. Agnes Emily Carman (Carman, 189–), double, and Arnold (Dawson, 1893), single, are really red without the objectionable magenta, and their foliage is particularly handsome. Arnold is the better shrub, but neither of them blooms much after early summer.

Of the coarser types, the best double white is Blanc Double de Coubert (Cochet-Cochet, 1892). Belle Poitevine (Bruant, 1895), while extremely rough, makes an excellent tree-rose. It is only necessary to take up one of its strong canes and set it where the standard is desired. Cut it to the proper height and rub off all buds except a few near the top. In one season it will have a respectable head, and in two years it will be a genuine treasure. The flowers are not good close up, but at a little distance the effect is charming, and one can count upon it for a spot or two of color every month from May to November. The new Sarah Van Fleet (Dr. Van Fleet; introduced by the American Rose Society, 1926) is a clear light pink of most notable fragrance, and very well formed. It blooms continuously and makes a tremendous shrub. Probably it would make a standard as easily as Belle Poitevine.

There are no proved yellow Rugosas as yet, but Agnes

(Saunders, 1922) seems promising. Called amber by its originator, it is astonishingly deeper yellow than that. Türkes Rugosa Sämling (Türke, 1923) is said to be dwarf, double, well shaped, and orange-yellow to pink. I have not seen it. The new Dr. E. M. Mills (Dr. Van Fleet; introduced by the American Rose Society, 1926) is about half Rugosa; the other half seems to be *Rosa Hugonis*. The flowers are two inches across, half-globular, semidouble, and pale yellow with a slightly pinkish tinge. It blooms in bewildering profusion very early in the season.

Max Graf (Bowditch, 1919) and Lady Duncan (Dawson, 1900) are two hybrids of *Rosa rugosa* and *Rosa Wichuraiana* which are quite similar. Their pink flowers are much alike, but they differ in foliage. Both are trailing Rugosas, suitable for covering walls, banks, or rock-work.

Equally hardy as the Rugosa tribe is the Scotch Brier group, *Rosa spinosissima*. It was once very widely cultivated, but most of the varieties have been lost. The old Thimble Rose, sometimes found in ancient graveyards, is a creamy-white Scotch rose, and a few of them appear in catalogues now and then. The flowers are generally insignificant, especially the double ones, which seldom open well, but the single forms are often attractive. The low spiny bushes, with small ferny foliage, are wholly good as shrubs. The most popular is the Altai Rose from Siberia, properly known as *Rosa spinosissima altaica*, which has very large, pure white flowers in late spring, followed by glistening black hips. It is taller in habit than the other types, and not so fine as they are when massed in front of the shrubbery, where their low, dense growth mats like a bright-green pincushion.

*Rosa fœtida*, an Asiatic species, has large, single flowers of bright yellow. It is seldom seen; but several forms of it are

very highly prized. *Rosa fœtida bicolor*, known to the herbalist Gerard in 1596, is a gem. The single flowers are intensely brilliant copper-red on the inside and shining yellow on the outside. It is commonly known as the Austrian Copper. It is not easy to grow, but it is worth the trouble. Give it a dry spot, plant it carefully, and leave it strictly alone. Never touch it with the pruning shears. It blooms in late spring.

Persian Yellow (Willock, 1837) is a deep-yellow form which is scarcely worth growing, because of its susceptibility to disease and its habit of dying back after blooming. It seldom flowers more than one year in three. Harison's Yellow (Harison, 1830), as good as Persian Yellow is bad, is the cheery, old-fashioned yellow rose seen around old homes and in country lanes in late May. A hedge of it is a magnificent sight. It is absolutely hardy and its foliage is perfect, but it becomes leggy as it ages, and it does n't like pruning.

*Rosa Hugonis*, a Himalayan species, is a large, graceful shrub, with small, single, light-yellow flowers, produced in long wreaths very early in the season. In its larger stages it seems best to prune it rather hard after it has finished flowering, in order to keep it within bounds.

*Rosa Ecæ* is similar, but stiffer and more erect, with polished leaves and reddish wood. The flowers are small, creamy-white, and come very early. When the plant is wet it exhales a strong odor which is unpleasant to some people. Almost identical in habit, but without the odor, is *Rosa xanthina*. The double form has flowers similar to Harison's Yellow in color, but it is scarcely so profuse in bloom. I have not seen the single form.

*Rosa Moyesi* is intense, dark carmine-red, but of very poor habit. *Rosa bella* is similar to it, but lighter, and loses its leaves early. *Rosa rubrifolia* is a tall, erect shrub with dark-reddish leaves and stems. It is very hardy and desirable where a shrub

*Rosa Ecæ used as a shrub*

(*Note the beautiful foliage and its profusion of yellowish-white flowers*)

with colored foliage is wanted. The flowers are intensely pink, but of secondary importance. *Rosa Wichuraiana* is a creeping plant with highly varnished leaves and pretty white flowers in clusters. It blooms late and is an excellent ground-cover. *Rosa multiflora* is a scrambling, prickly shrub, reaching eight or ten feet, covering itself with big clusters of flowers like blackberry blossoms. It is very satisfactory in winter with its bunches of bright-red hips. A pink form, *Rosa multiflora cathayensis*, is also known, but not widely distributed; its blooms are lovely.

Of less hardy species, *Rosa lævigata* is widely planted through the South, where it is known as the Cherokee rose; there is a pink form of it, Ramona (Dietrich and Turner, 1913). Neither of these roses will stand cold weather. *Rosa bracteata*, the MacCartney rose, is a handsome, burry little flower of creamy white, almost continually in bloom. Its foliage is a delight. I have seen it thriving in southeastern Pennsylvania, where it has withstood several winters. The hybrid of it, Mermaid, was mentioned in the chapter on Climbing Roses.

Of American species, *Rosa blanda* is too greedy, suckering all over the garden; *Rosa setigera* is an enormous, scrambling plant of half-climbing habit which needs generous space; *Rosa humilis* and *Rosa lucida* are quite insignificant; *Rosa nitida* is very dwarf, with polished leaves, and does well in the front of the border; *Rosa stellata* has curious flowers, like hollyhocks, combined with the leaves, thorns, and stems of a gooseberry. It has a disposition to bloom a little during the summer, but I doubt its hardiness in severe climates.

*Rosa rubiginosa*, the sweetbrier or eglantine, is a good shrubbery plant behind other shrubs, because it is very tall and loses its lower foliage early. The little flowers are pretty, but its chief merit is the delightful fragrance of its young leaves when damped with dew or rain. It has mothered a number of hy-

brids called the Penzance Briers. They are all charming in the shrubbery, where they benefit by the protection of other shrubs in severe winters. Of them Lady Penzance and Lord Penzance (Lord Penzance, 1894) are most beautiful. The former is brilliantly copper-colored and the latter pale fawn. They are much more dwarf than the other hybrids, but will easily reach five feet.

In efforts to originate a hardy, everblooming climbing rose, the Reverend Joseph Pemberton in England, Peter Lambert of Germany, and Captain George C. Thomas of this country have produced a group of strong, fairly everblooming shrub-roses which may find a place in the little garden where Rugosas would be too coarse. Of Pemberton's group I like best Danäe (1913), double, pale-yellow; Francesca (1922), apricot; and Pax (1918), pure white. Pax freezes to the ground in northern Ohio, and I suspect the others would behave likewise.

None of Lambert's new roses has been sufficiently tested for us to know much about them, but the most attractive by description are Geheimrat Dr. Mittweg (1909), rose-pink and yellow; Körner (1914), reddish orange-yellow; and Schiller (1913), clear pink.

Of Captain Thomas's roses I like best the single yellow Bloomfield Dainty, which is profuse in bloom and very different from other roses. Mrs. George C. Thomas (1921) may have attractions for those who like smallish semidouble roses, but I could do very well without it. Bloomfield Rocket, pink, Bloomfield Fascination, pale-yellow, and a few others introduced in 1925 have interesting possibilities as shrubs or as hedge roses. As climbers they have not yet succeeded in making much impression.

A few curious old roses are treasured for association's sake or for their old-style beauty. Of these, *Rosa l'heritierana*, a form of the Alpine or Boursault rose, is frequently met with.

Its smooth reddish shoots are covered with waxy bloom, and the long canes are garlands of purple-crimson in late May and early June. The old Red Provence is often found in the grass around abandoned houses, and its clear-red, half-double flowers are very sweet. The Cabbage Rose (*R. centifolia*) is worth growing for its fragrance alone; Gloire des Rosomanes (Vibert, 1825) is a splendid old China rose (now exploited in California as "Ragged Robin," and used as an understock), which makes a stunning hedge where it does not freeze back. York-and-Lancaster is an old Damask rose known in 1551, and is still sought after. It is quite rare. The flowers are parti-colored red and white. Forms of the White Rose (*R. alba*) are extant. The form which I have had is tall-growing, with grayish foliage and bright-green stems. The flowers are large, saucer-like, snowy white, with an immense yellow centre, and are followed by myriads of elongated yellow hips.

The choicest of the olden kinds are the Moss roses. Of these Blanche Moreau (Moreau-Robert, 1880), pure white, is lovely. Crested Moss (found on a convent wall near Berne, Switzerland, in 1827) has curiously hooded buds and lovely pink flowers. Princess Adelaide (Laffay, 1845) is glistening pink, and very large, although not so mossy. There is no yellow Moss rose and I have never seen a good red one.

Moss roses are extremely hardy and spread by underground rootstocks. They should be kept clean, with the dead canes cut out and the new shoots shortened a little in the spring. If they are fed well, they are much better than if left to struggle for themselves, — as is usually the case, — and few things are sweeter or more charming than a well-developed, half-open bud of Blanche Moreau or the Crested Moss.

## IX

## PREPARATION OF THE SOIL AND PLANTING

Roses require a well-drained, well-ventilated site and some sunshine. The sunshine is seldom hard to get; in fact, most gardens have too much of it, and quite often there is more than ample ventilation. If the ground slopes, even very gently, or if the subsoil is of a porous nature, the drainage is usually very satisfactory; but if the ground is flat and the soil always damp, it must be artificially drained. Such a condition may be remedied by excavating the rose-beds two feet deep, and putting in a six-inch layer of broken stone, coarse gravel, or any loose material which will absorb water from the bed.

There are almost as many different prescriptions for the ideal rose-soil as there are rose-growers. I have seen good roses grown in all kinds of soil from heavy clay to almost pure sand. The perfectly simple yet often overlooked explanation is that any soil is good for roses if it is kept in proper texture and tilth. Success does not depend upon the kind of soil, but upon how it is managed. With the possible exception of good loam, few soils can grow good roses without the addition of fertilizer or some element to improve their physical condition. The soil must be dense, not loose or fluffy, and it must be heavily enriched with plant-food.

The kind of soil I like best for roses is the top layer of a cow-pasture, containing rotted grass-roots and leaves so thoroughly incorporated that it is soft, grainy, and fairly heavy, with no small sticks, half-rotted leaves, or any suggestion of fluffiness. There is a wholesome, bitterish odor about such a soil, a smell

compounded of generations of timothy, clover, and redtop, flavored with yarrow and ragweed, which identifies it at once; and if the soil of the little garden has that particular, clean, trustworthy fragrance, there is no need of further worry or bother.

It may be that the roses are to occupy a place where other plants have grown. If the soil has produced good corn, eatable potatoes, or enthusiastic cabbage, it will produce fine roses. Any garden which has been well fertilized and deeply cultivated for a period of years is thoroughly satisfactory. After all, the earth is merely the medium by which the roses are to be fed. If it is rich in itself they will need less feeding; if it is poor, they will need more.

When experience or examination has shown the soil to be well drained and fairly fertile, the actual preparation of the rose-beds should be begun in the autumn, as soon as the frost has cleared the ground of flowers or vegetables. If the garden is on new land or sod, it can be started earlier; but there is no hurry, except that the beds should be finished before the middle of October if the roses are to be planted in November, to give them time to settle.

Mark out the beds and spade them. Two full spades deep is sufficient, but make it the full depth of the spade. The best way is to throw the top "spit" (as the English call it, meaning the earth lifted by the spade after it has been thrust into the ground as nearly vertically as the digger can manage) out of the bed and loosen the bottom, mixing the fertilizer with it. The topsoil should be returned to the bed, enriched as much as seems necessary. Avoid great quantities of leaf-mould, straw, or anything which tends to lighten the mixture, unless the natural soil is exceedingly dense and heavy.

If examination shows the soil of the little garden unsuited

to grow roses and incapable of easy improvement, the remedy is to remove the sterile ground, make sure about the drainage, and fill in the beds with proper soil. The experienced gardener, with a knowledge of compost heaps and their virtues, will have little difficulty about finding good earth to use; but if one has to depend upon soil secured from the neighborhood's handy man or "landscaper," it is well to ascertain just what kind of soil it is and where it was obtained. Generally the best to be had is none too good.

When one has to deal with such commercial topsoil it is best to mix it with rotten manure to the extent of one third its bulk, with the least possible admixture of straw, cornstalks, or chaff. Cow-manure is always the most desirable, but horse-manure is acceptable, especially if the soil is heavy or gummy. Chicken-manure is very powerful, and should be used sparingly or be so thoroughly decomposed that there is no chance for fermentation or decay in the rose-bed. Other animal manures are valuable when they are available, but they are either so scarce or so offensive that they are rarely used.

Only where the soil is decidedly unwholesome to the sense of smell, with a dank, sourish odor, or when it has a tendency to accumulate in rough, unbreakable lumps if worked after rains, is it desirable to use lime. Frankly, I have very little use for lime in the rose-garden, and it is only under extreme circumstances of sour or cloddy ground that I advocate its use.

The commercial fertilizer known as sheep-manure is good, and its lack of bulk makes it desirable in soils which tend to be light. One scarcely wants to use so much of this material because of the expense; besides, it is more concentrated than the natural manure and a little of it goes a long way. A half-pound to a pound for each rose is not too much, depending upon the fertility of the original soil. Thus a fifty-pound bag

would be sufficient for a bed three feet wide and thirty-five feet long, which is to hold fifty roses. Not so much will be needed unless the ground is very poor.

Bone-meal is a popular fertilizer, particularly rich in phosphorus, an element which roses require in quantity. It can be mixed with the soil with even greater liberality than sheep-manure, as it is very slow in getting to work and lasts a long time. It is often combined half-and-half with the sheep-manure and gives very satisfactory results.

I have had little experience with chemical fertilizers. Their effect is more stimulating than nourishing; and while they are valuable to start action in the spring with a vigorous impetus, or to revive the roses when they go to sleep in summer, their use should be left to those who know how to handle chemicals safely, or be limited to very small quantities until one acquires knowledge.

The only other situation likely to confront the maker of the little rose-garden is to have an inhospitable soil without access to, or means to obtain, the desired topsoil with which to make new beds. For such a situation I have words of cheer. Roses are accommodating plants, and under adverse conditions they are easily responsive to good care. A heavy soil may be mended by adding coal ashes, which are easy to get, or gravel, which is always purchasable. Lime will help here, and with grass-clippings, other vegetable refuse, and any manure obtainable, should make a fairly good rose-bed from a most unlikely soil within a season or two. Even the ashy mixture of cinders, brickbats, and cans sometimes found is not altogether impossible of improvement. Vegetable refuse, manure, and a little clay, if it can be got, will do wonders with it. If the soil can be put into condition to raise anything, it will grow roses.

It has been said that the time to plant roses is when you get

them, which is true, but one can frequently time the order or specify a shipping date, to have them arrive when the ground is ready to receive them. There are three things which may be done. Buy and plant roses in the fall; buy them in the fall and keep them until spring; or buy and plant them in the spring. The first is most convenient, the second is the safest, and the third is what almost everybody does. Whether the roses are planted in the fall or in the spring, the method of planting is the same.

As soon as they arrive, open the packages in a sheltered place, — under cover if possible, — and transfer the plants to tubs of water or to trenches of moist soil. Do not, I implore, leave the plants lying around with their roots uncovered to wither and shrivel. Roses are living things, and moisture is their life; deprived of it, they perish, more slowly but just as inevitably, as does a fish out of water. When it is impossible to plant them at once, "heel them in" in one of the beds or in another part of the garden. Heeling-in is accomplished by opening a trench with sloping sides and placing the roses in it in a reclining position. Throw the earth over them, soak the ground thoroughly, and cover them from sun or frost by boards, burlap, paper, or other material.

If the ground is so badly frozen when the roses arrive that they can neither be planted nor heeled-in, they should be left in the packages and watered daily; but strenuous efforts should be made to get them under ground as soon as possible.

To plant them, one makes a hole large enough to accommodate the roots of the rose without bunching or bending them. A foot square and a foot deep is usually large enough, but if the plant is more vigorous, do not stint the hole; make it large and comfortable for the rose. Take the plant from the water or from its covering of moist soil and examine it. Cut off

bruised or broken portions of either top or root. Shorten very long roots to a more reasonable length. Always cut off a root in preference to bending or cramping it into a small hole. The "bud" — the place where the rose is joined to the stock — is readily detectable. Cut off all except the very strongest roses to within six inches of the bud. This is a very necessary thing, and one should not flinch from it.

Adjust the plant to its place in the bed, not to interfere with its neighbors and yet to have plenty of space without encroaching upon the walk. When the roots are fibrous, it is advisable to build a cone of soil in the bottom of the hole and arrange the roots along the slope of it, separating them from the ones at each side and above and below them. Try to keep roots from touching each other and from crossing in the same layer. The several layers of roots should be separated with soil and not pressed together. They should lie nearly horizontal, with a downward tendency toward the tips. Work fine soil among them as they are arranged, and press it in very firmly with the fingers. When the highest roots are covered an inch or two get into the hole and work the earth down by gently rocking back and forth upon the feet. It is next to impossible to pack the roots of a rose too firmly in the soil. Loose planting is fatal.

Before the final tamping, which settles the rose permanently in its place, see to it that the bud is even with, or about one inch below, what will be the level of the bed and under no circumstances more than two inches; and be sure that the plant is in the exact place where it is wanted. Finish tamping, and if the soil is dry or the weather hot and windy, fill up the hole with water. When it has drained away, fill in to the level of the bed. After all the roses in the bed have been planted, the surface should be raked loose and be kept that way.

The test of a well-planted rose is to try to pull it up. If it resists a strenuous effort, it is well planted; if it yields, it should be packed in tighter. This test must be applied with discretion, because some roses have roots which cannot be very firmly anchored by any amount of tamping; it requires the small, fibrous roots which the plant puts out to establish it firmly. The roots of the various understocks are quite different. The big, fleshy prongs of Ragged Robin are easy to plant, but they cannot be made firm; the stringy rootlets of Manetti are not hard to handle; the massed, fibrous roots of the Multiflora stocks are difficult, requiring much patience, but when properly planted they hold fast like an oak.

Fall-planted roses need careful protection in winter, and the best method will be discussed in another chapter. Spring-planted roses should start into growth within a few weeks, and be in full bloom at the height of the first season.

It often happens that plants purchased in spring are in bad condition, either from drying-out in storage or in transit. They may be improved by burying them completely for several days in damp soil. Do not try to revive them by soaking them in water or plant them without getting them into proper condition. In either case they die.

Be sure that spring planting is done while it is still spring. It is seldom possible to plant before March, but the roses should be in the ground before the middle of April, or at least two weeks before the apple trees blossom. If it is impossible to get roses or to plant roses by that time, wait until the potted plants can be had and set them out instead. That is usually about the fifteenth of May and later.

Potted roses should be slipped from the pot and inserted into a generous hole without disturbing the ball of roots. Watering and shading may be necessary for several days, to

prevent the leaves and buds from flagging, but if there is a cool, showery period they will need very little attention. Remember that potted roses are likely to decline in vigor after the first season, and that they should be dug up and replanted in the fall.

If the rose-bed has been well prepared and manured, there is no need to fertilize it at planting-time; but it happens sometimes that roses are planted without a special bed being made for them. This is the case when they are planted in established gardens or beds where other roses have been removed. In such instances the hole should be large enough to receive sufficient new, clean soil to establish the plant.

Climbing roses, shrubs, and specimen plants which are not planted in beds should have large holes, two and a half to three feet square, spaded deeply, and heavily enriched.

In all cases where manure is used at planting-time the greatest care should be taken that none of it comes in contact with the roots of the rose. If it is not thoroughly rotted, it should be so well broken up and so mixed with soil that the danger of heating is reduced to a minimum.

The distance between plants in the rose-bed varies. Small-growing sorts can be crowded into fifteen inches or a little less. This is much closer than most rose-growers advise, but I have found it best. Stronger varieties will require more space, even up to three feet. One soon learns to gauge the growth of a rose by the size of the unpruned plant when it is received. Ordinarily, bedding roses are as large when they come from the nursery as they ever will be. It is only in climates where they never freeze that they greatly increase in size. For purposes of estimating the number of roses required to fill a given space, or to calculate the space for a given number of roses, an average of two square feet of surface to each plant is a liberal allowance.

# X

## WINTER PROTECTION AND PRUNING

To bring roses through the winter without loss or serious damage to their branches is a major problem in severe climates. "Severe climate" means a region subject to sudden changes and wide variations in temperature; where zero weather and worse may be expected; where the snowfall is intermittent instead of coming early and remaining late — in fact, almost all of that part of the continent lying north of the Ohio and Missouri Rivers which is not tempered by the oceans, the Great Lakes, or the mountains. Such geographical delimitations are misleading because of variations in altitude, exposure to winds, protection by elevations, or modification by large bodies of water; but the natural range of certain well-known plants is a fairly sure guide. In the eastern part of the country, that region where the Judas tree (*Cercis canadensis*) thrives abundantly in the wild state, is practically the same as that zone where Hybrid Tea roses may be wintered with little or no protection. Toward the Central West the pawpaw roughly defines a similar range. Where peaches are a successful commercial crop, the Hybrid Perpetuals and Hardy Climbers will winter unsheltered. In colder districts all roses need careful protection.

Winter damage may be of several kinds: outright freezing, whenever congelation and consequent expansion of the juices within the plant rupture its tissues; rot, caused by dampness and cold; splitting of the bark by rapidly alternating freezing and thawing; and smothering caused by too heavy protection.

To winter roses safely, only hardy kinds should be planted. Where only the ruggedest roses can survive, no one should attempt extensively to grow Teas, Tender Climbers, or any but the hardiest Hybrid Teas, Hybrid Perpetuals, Hardy Climbers, Rugosas and other very hardy shrub-roses, unless he is willing to sacrifice them each winter. Where the purse is ample, something may be said for treating roses as annuals in such climates, but most of us cannot afford that.

The condition of the roses at the beginning of winter has a great deal to do with their ability to resist cold. Plants in lively, succulent growth, when caught by the frosts, are exceptionally liable to succumb; but tender varieties show surprising hardiness if their wood has been ripened thoroughly in a warm dry autumn.

If roses suitable to the climate have been chosen, winter protection consists entirely of keeping them dry and shaded from the sun. This is the grand secret, and any manner in which it can be effected is a proper procedure. When heavy protection is necessary to prevent outright freezing, it should not be of such a nature as to smother the plants or to retain dampness. The best protection is the least that will accomplish the purpose.

It has been suggested that some shelter against prevailing winds is desirable. In the little garden one seldom has a choice, but if a windbreak is available, it will be of invaluable service. I have in mind a group of roses planted to the east of a house where the west wind cannot strike them. These invariably withstand the winter with less damage, without protection, than those most carefully protected but in a more exposed situation.

Roses grow and bloom through the light frosts of early fall until surprisingly late in the year, but after a series of heavy

frosts they cease blooming, although bearing full foliage and undeveloped buds. When that time comes and before the ground freezes, the soil should be hilled up around them as high as it can be raised without exposing the roots of adjacent plants. If it is not too onerous, it is better to obtain extra soil and mound them with it, without disturbing the bed itself. When the plants are so hilled, there is a hollow in the centre of the bed between the ridges. It is my practice to fill this hollow with fresh manure, mounding it in the centre higher than the earth about the plants, so that the whole bed will shed water. It is important that no mass of the manure come in contact with the plants. Soggy manure is about the worst thing that can be put next to a rose plant in the fall, but it has insulating and fertilizing value if it is carefully used.

When the mounded beds have frozen and most of the leaves have fallen from the bushes, I cover the entire bed with refuse from the vegetable and flower garden — old cosmos plants, zinnias, delphiniums, marigolds, tomato vines, anything twiggy and resilient which will shade, yet permit a free circulation of air about the roses. I should like to cover them with dried leaves retained by netting, but durable leaves are scarce about the garden, and I hit upon the dead plants as a substitute. Evergreen branches are excellent if they can be obtained, but in great areas of our country there are no evergreen forests to supply the necessary branches. In cities it is sometimes possible to buy up cheaply the left-over stock of Christmas trees, and that is about the right time to finish covering the roses. Evergreen branches are light; they effectively shade the plants, provide proper aeration, and leave no heritage of bugs and seeds to pester the gardener next summer.

Protecting the plants with nail-kegs filled with earth or leaves, so covered that no moisture can collect inside, has

been successful in very severe climates. Boxes, banana-crates, baskets, and heavy paper cartons have been similarly efficacious; but these things are very unsightly in the garden, which ought to be a place of enjoyment in winter as well as in summer.

In the most severe climates protection is afforded by boxing the rose-beds, usually leaving the north side open for ventilation. The roses are packed in leaves and a water-tight roof of boards is nailed on. When the number of plants is small, it is still safer to lift them carefully and bury them deeply in a dry place, as the farmers do in storing cabbages and apples in the garden. If there is a cold cellar or an unheated shed, they may be heeled-in there, and if not allowed to become too dry they will winter well. This is the way those plants which have been purchased in the fall, but which are not to be planted until spring, are best protected. If one takes care of them himself, he can be sure it is done right. When it is left to the average nurseryman one is never sure.

Well-established Hardy Climbers scarcely need protection in any but the most rigorous climates. In the lee of windbreaks or on sheltered walls they seldom suffer, but it is not safe to take chances when the thermometer is known to flirt seriously with sub-zero temperatures. If the climbers are grown as pillars, they may be wrapped with waterproof paper or burlap, or protected by evergreen branches. In the country we lean corn-shocks against them. The safest way is to take them down from their supports, coil the long canes on the ground, and cover them with tarred paper and burlap or with a heavy blanket of leaves, so held in place that they will not be exposed during the winter. It is important that the base of the canes be surely covered. When protection is not thorough, the tips of the branches may winter safely but a spot or two near the

base may be so damaged that the whole cane dies. That is always more or less tragic.

When, after sundry coquettings and flirtations with the calendar, spring settles down to business, — either in late February, as in some parts of the country, or in April, — the roses should be uncovered. Uncovering should be undertaken with caution, or a treacherous frost may cause grave damage; but it should not be delayed too long. Roses break into growth very early, and it is most difficult to remove the covering when it is pierced through and through with their young, excessively brittle shoots. The plants should be kept dormant as late as possible; but when they have fairly broken into growth, the covering ought to be taken off, and the soil leveled as soon as it is dry enough to work.

At that time roses should be pruned — an undertaking which some people approach in the spirit of reverence and sacrifice, others with a sentimental shrinking, and some with bloodthirsty glee. In the gardens of rose-specialists, pruning is more or less an art and mystery. In the little garden, where plenty of roses are wanted for color and fair roses are wanted for cutting, it is a less complicated performance, but none the less necessary.

First, all damaged or dead canes should be taken from every bush, cutting them with a keen knife or pruning shears. Sometimes the dead wood extends to the ground-level or below, but that is immaterial if the "bud" is sound. After this preliminary pruning the lighter covering may be replaced or kept ready for an emergency, but by the time the apple orchards are in bloom it should be entirely removed. Then the roses must have their final pruning, for which the nippers should be sharp and the knees inured to labor, because that part of rose-gardening, at least, is done upon the knees.

Examine each bush carefully. If there is a confused, twiggy mass near the base, remove it together with all canes damaged near the crown of the plant. The wood left should be clean straight growth of last season. I seldom take off a good shoot of last year, unless it is in the way of another or growing at an ungainly angle. The canes which have been saved must be shortened. Very long shoots may be cut back one quarter or one third of their length; canes of moderate vigor about one half; weak canes may be removed altogether, or cut back hard, removing about two thirds of their length. All strong-growing plants should be very moderately pruned, and weak plants more severely.

All cuts should be clean, leaving no split, torn, or hanging bark. They should be made slanting, and directly above a bud or eye, which should point in the direction in which a new shoot ought to grow.

The greater part of the pruning should be done at the base of the plant, by removing entirely old and extra canes, weak stems, and awkward branches. Do not attack a rose-bush by the snip-snip method of trimming a privet hedge; keep it open in the centre, clean of twigginess at the base; arrange the canes as symmetrically as possible, and prune them to nearly equal length.

The foregoing principles apply with particular force to Hybrid Teas, but they are applicable to all types except the Shrubs and Climbers. Probably the best way to prune Hybrid Perpetuals in the little garden is to remove all old canes, leaving only the new ones of last season, reducing the number of them to what the plant may be able to bear — five or six if it is young, but twelve or more on a big, husky, long-established plant. These remaining canes may be shortened to any desired length, bearing in mind that flowers will be borne at the top

and on all sides on stems at least a foot long which will increase the height of the bush by one foot and its diameter by two. A bush left two feet high at pruning-time may be three feet when in flower, and at least two feet wider than the spread of the bare canes. If Hybrid Perpetuals are left higher than four feet, the lowest buds on the canes are likely not to grow, giving a leggy, top-heavy appearance to the plant. That may be desirable when there is an underplanting of some sort, but the long canes should be supported by stakes, because the heavy flowers will bend them to the ground if there is rain at blooming-time. When trained as pillars, the Hybrid Perpetuals should be treated like the Hardy Climbers which are used for the same purpose.

In congenial climates, Tea roses require little pruning other than thinning out old wood and twiggy growth. In the North the winter does all the pruning the plants can stand — and often more. Removal of the dead wood is all that is necessary.

Polyanthas, Chinas, and Bourbons require only thinning at the centre and a general smoothing of outline. Their good, stout canes should be sparingly cut, because they seldom start to grow again except from the tips, and if those are cut off, the canes are likely to become hollow and useless.

Rugosas and their hybrids need only the removal of dead wood, old seed-hips, and wood covered with scale. If necessary, they may be shorn to the ground every third or fourth year. They will restore themselves the same season. The same is true of nearly all the shrub roses.

Some roses have a natural propensity to become leggy and unsightly at the base. If they are upon their own roots, they occasionally throw up suckers from underground rootstocks. Harison's Yellow, some of the Scotch Roses, and the Rugosas do that. If these suckers are cut back sharply, they will branch

*A splendid specimen of the Hybrid Perpetual, Frau Karl Druschki*

*(This plant has been pruned very slightly, resulting in great stature and magnificent bloom. Notice underplanting of lilies of the valley)*

thickly and soon hide the bare base of the main plant. When necessary, one may skillfully lift a sucker, loosening it without severing the connection, and reset it in a place where it will do the most good.

Hardy Climbers require quite different treatment from the other roses, although I have found that most of the shrub roses answer well to the same system. Do not cut a climbing rose in the spring, except to take off dangling ends and dead canes. Every twig cut off then is a sacrifice of bloom. Confine the spring work with Hardy Climbers to putting them back upon their pillars or trellises, to restrained pruning for neatness, and to making fast the ties which have loosened.

Long before they have finished blooming, strong, fleshy canes spring from the base of the Hardy Climbers. These new canes should be cherished; they are to bear next season's flowers. As soon as the bloom has faded or fallen, every cane which has borne a flower should be cut off completely at the ground or at the point where a strong new cane springs from it. This must be done, or the climbers will overrun the little garden; but an old cane or two may be left to balance the plant or for special purposes. When the old wood has been taken away, the new shoots should be trained and tied in the way they ought to go. Dealing with the Hardy Climbers is a problem in renewing the entire plant above ground each year. It is the only way in which they can be kept in manageable proportions, free from disease, decay, and old age.

Pruning is usually considered a spring job which, once done, is finished for the year. That is a mistake. Every flower cut during the summer is an exercise in the art of pruning. Every dead cane which appears in the summer should be cut away. Rampant, unsightly, and unwanted growth should be taken off. Pruning is an all-seasons job. When fall comes, there may

be tall, unwieldy canes on the Hybrid Perpetuals, or long, dangling ends on the climbers. These should be shortened or tied firmly, lest they tear the bark of other canes with their thorns as they thrash in the wind, or by their great weight and leverage loosen the plant's hold upon the ground.

Pruning and winter protection go hand in hand; one aids the other or corrects the other's mistakes. They are the two occupations at which the rose-enthusiast may work when there are no roses to be seen and he is tired of merely reading about them. They are pleasurable work, affording endless amusement and opportunity for experiment and observation. They are excuses for dreaming, for planning, for fussing about — and for worry. There would be less fun, less excitement, and less genuine interest if we had neither to protect nor to prune the roses.

## XI

## INSECTS AND DISEASES

It is too bad that this chapter has to be written, but there is no help for it. One must face the unpleasant fact that roses have many enemies. Fortunately, they may be successfully controlled, and the methods must become a part of every rose-grower's conscious and unconscious being. The price of perfect roses is eternal vigilance. It does not pay to take chances. The remedies must be applied before the troubles appear; and if one is wholly successful he will never see the conquered foe.

Usually the first pest to contend with is the rose aphids — tiny plant-lice, usually green but sometimes pink or yellowish. They appear in multitudes, covering the growing tips and buds, from which they suck the juices through stiff beaks thrust into the bark and tissues. The thumb and forefinger, firmly applied and drawn over the infested shoot, is a dead-sure remedy, but people are often squeamish about such things. Aphids may be killed by that form of tobacco known as nicotine sulphate, obtainable everywhere as Black-Leaf 40. A teaspoonful dissolved in two gallons of water is the recommended strength, but the dose may be increased if necessary. If a small hand-sprayer — holding about a quart — is used, the screw-cap filled with Black-Leaf 40 and mixed with the container full of water is about right. Soap may be added to make it stick better. Indeed, a thick soap-solution is said to do the trick without tobacco, by smothering the lice, but it never would for me. Particular care must be taken to reach every insect with the

spray. Three thorough applications, one day apart, ought to overcome the most stubborn infestation, but a keen lookout should be kept for its reappearance.

Rose leaf-hoppers, commonly known as thrips, are small, whitish, very active insects, which feed on the under side of the leaves, causing them to turn yellowish. Thorough control of aphids will take care of thrips also, but the latter are likely to appear later in the season, when one is not so keenly on the alert for the lice.

The red spider appears in hot, dry periods, causing the leaves to become papery and rusty. This vicious little beast — it is not an insect — is invisible to the eye and its attack is very insidious. A slow browning takes place, like the natural ripening of a leaf, so gradually that it is hardly noticed. The spider cannot thrive under moist conditions, and if the under sides of the leaves are frequently sprayed with Black-Leaf 40, the red spider will be discouraged, as well as aphids and thrips.

A number of insects feed on rose leaves in the larval or worm stage of their existence. There is little need to describe them in detail; any worm found upon a rose leaf is there for no good purpose and should be destroyed. Again, I recommend the finger-and-thumb method as the quickest and most deadly; but all of the worms are easily controlled by any poison which is convenient. Arsenate of lead is safest and surest. It may be applied as a dust or in water. The orthodox proportion is one ounce to one and one-half gallons. A tablespoon to a quart is a good mixture for the small sprayer.

The worst and meanest insect is the rose-bug, sometimes called the rose chafer or June bug. This error of creation is an awkward, long-legged, winged insect, rusty yellow or light brown in color. It feeds voraciously and indiscriminately upon roses, rose leaves, grape blossoms, peonies — in fact, upon

anything which is sweet or bright or green. It comes in great numbers when the season is well under way and continually increases until the rose bloom is at its height.

Rose-bugs are worst where the soil is light, or near waste land. Part of their life cycle is passed as grubs underground, and thorough cultivation of the rose beds and the near-by garden lessens the severity of the attack, by killing many of them in the larval state. The rose-bugs prefer light-colored roses, and in some gardens a hedge of Tausendschön is planted somewhere out of sight for their special benefit; but in severe infestations they attack even the darkest roses.

I know of nothing which will destroy rose-bugs. Some success has been reported from spraying the roses with arsenate of lead, sweetened with molasses. It makes an ugly mess of the flowers and is not very efficient. A preparation called Melrosine is advertised to control them; it has been used with partial success. Another "dope," Ansect, is said to destroy a large percentage of them, and a third, Kilspray, annihilates aster beetles. I suspect it may make rose-bugs uncomfortable, but I have not had an opportunity to test it. Anything is worth trying. The surest method is to pick them by hand into jars of water and kerosene. It is a tiresome and endless job, but at least there are visible results of the work. Rare plants, or those from which flowers are wanted for special purposes, may be protected by netting.

Rose scale is not a serious pest. It appears as a whitish crust on old canes, most frequently in damp situations, and is more noticeable before the leaves come out. Lime-sulphur will eradicate it in early spring; but it is most practical in the little garden to cut out the scaly canes and burn them. Where there is only a little scale and the canes cannot be spared, scrubbing with a stiff brush and strong soap-solution is effective.

Other insects may attack the flowers, the leaves, and the seed-hips, but their damage is slight and they may be controlled by the precautions against other pests, so that they need not be separately considered. The rose-grower must remember that there are two classes of insects — the soft-bodied, sucking kinds, which must be killed with nicotine, and the chewing kind, which must be poisoned. Black-Leaf 40 disposes of the former, and arsenate of lead destroys the latter.

Mildew and black-spot are world-wide diseases of roses. Others, less serious, are controlled by the same measures, — a fact which makes them comparatively unimportant.

Mildew is likely to occur in damp weather at any time of the year. Some varieties are subject to it, and the wise rose-grower learns to discard them. The first signs of the disease are gray, powdery spots on the leaves or shoots. They spread rapidly; the foliage becomes curiously folded, curled, or drooping; and the buds, shoots, and even the thorns may be covered with a felty coating. Later this aspect disappears; the leaves darken in spots and fall. In its early stages, mildew can be removed from the leaves by spraying them with sodium bicarbonate, prepared by dissolving a tablespoonful in a quart of water. (Sodium bicarbonate is ordinary baking-soda.) One or two applications will almost certainly cleanse a plant of mildew, but will not insure it against reinfection.

The spores of the fungus which causes mildew are present everywhere, and under favorable conditions, grow upon the surface of the leaf. The vitality of the plant has much to do with its ability to resist such an attack. An Australian correspondent of the *American Rose Annual* suggests that liberal quantities of potash, added to the soil, stimulate the roses to resistance. Extra potash may be given by using wood ashes

liberally; it is available commercially as potash marl, and it may be applied as potassium sulphate. It also exists in large quantities in good hand-soaps — but not in laundry soaps. Soapsuds is an old-fashioned fertilizer which apparently has its merits. The real remedy for mildew is sulphur, and it is applied in the same manner recommended for black-spot.

That scourge of roses exists wherever they are grown. Occasionally we hear of varieties which are immune to mildew, and experience often verifies the report, but I have yet to see the rose that can resist black-spot, if black-spot is determined to come. Nevertheless, some varieties are so highly resistant that it amounts to practical immunity. The disease first appears as inconspicuous dusky-black or purple spots upon the green leaf, which may easily be overlooked. When the leaves turn yellow and become speckled with spots, even the inexperienced must realize something is wrong. If unchecked, every leaf on the bush will fall, and the growth and bloom of the plant be stunted or stopped.

It is of prime importance to know that black-spot cannot be cured. It must be prevented. Prevention requires courage, and when it is most successful it seems most useless, because the disease does not appear.

As soon as the young foliage is fully developed in the spring, the roses must be dusted every week or ten days — oftener in warm, showery weather — with a mixture consisting of nine parts dusting-sulphur and one part arsenate of lead. The dusting-sulphur is not ordinary "flowers" of sulphur, but a fine-ground, impalpable powder which floats on the atmosphere. Up-to-date seedsmen and nurserymen carry it in stock, or it may be obtained from the Corona Chemical Division of the Pittsburgh Plate Glass Co., Milwaukee, Wisconsin. If an additional part of finely divided tobacco dust is mixed with the

sulphur-arsenate mixture, the combination is said to kill aphids also, but that is not so certain.

This sulphur-arsenate preparation is known as the Massey Dust, because it was devised by Dr. L. M. Massey of Cornell University, for the American Rose Society, and it is recommended by that organization in all its publications and instructions. It is insisted that it must be applied at weekly or ten-day intervals without cessation, from early spring until the roses are frozen by the first frosts of winter. If that regimen is adhered to, success is assured.

The best time to apply the dust is in the late afternoon, and while the atmosphere is still. Then it floats above and beneath the bushes, completely coating the leaves with a thin film of almost invisible powder. It should not be put on when the leaves are wet, and it should not be shaken or squirted upon the bushes in splotches that make a disgusting mess. The virtue of this treatment is its invisibility. In that respect only it is superior to Bordeaux mixture.

It would not be fair to leave the discussion of black-spot without mentioning alternative treatments. Both mildew and black-spot may be controlled by Bordeaux mixture, the standard fungicide of gardens and horticulture generally. If arsenate of lead is mixed with it, it assumes all the properties of the Massey Dust, and an admixture of Black-Leaf 40 will seriously discommode aphids, thrips, and red spiders. Its disadvantage is that it stains the foliage badly; but, frankly, I like this treatment better than the other.

I recently observed a comparative test of five different fungicides on a plot of roses. Neither Bordeaux nor the Massey Dust was used, because they were known to be effective. Of the five, a commercial product known as Fungtrogen gave satisfactory control without staining the leaves or making a

disagreeable odor. It is a liquid, and was applied every five days, which is oftener than either Bordeaux or the Massey Dust need be used.

To eradicate black-spot when it has appeared in the garden is most difficult. The infected leaves must be collected from the plants and from the ground every day and promptly burned. The bush, with its remaining leaves, should be thoroughly coated with the Massey Dust and be kept so coated. The disease will not disappear at once, because of invisible infection on some of the leaves; and in almost all cases every leaf on the plant will be affected. The preventive measures can save the new growth only.

The rose-grower should provide himself with spraying or dusting apparatus. If his garden consists of less than a hundred roses, a little hand-sprayer holding about a quart of liquid is cheap and efficient. I particularly like the one with a detachable tank made from a glass fruit-jar. A separate container may be kept for different liquids, saving waste, although Bordeaux mixture is n't very effective if it is kept too long. For larger gardens, one of the three- or five-gallon sprayers, which can be slung across the back and operated by compressed air, is good, and one can spray very rapidly and efficiently with it.

If the dusting method is to be followed, a dust-gun is desirable, but in the small garden equally efficient and — I think — better-looking work can be done by tying the dust in a muslin bag and beating it with a stick among the roses. The dust floats from the bag in all directions and settles evenly over the plants. It is not deposited in streaks and spurts, as so often happens if the dust-gun is not working just right or is in unskillful hands. A quantity of the dusting-sulphur and arsenate of lead, together with a plentiful supply of Black-Leaf 40, should be kept on hand at all times. If the Bordeaux or some

other treatment is preferred, of course, it should be substituted for the sulphur.

One point of comfort is that if black-spot and mildew are kept properly under control, all other rose troubles cease. The arsenate of lead in the Massey Dust, or added to Bordeaux mixture, disposes of all chewing insects. This vastly simplifies matters.

Either dusting-sulphur or Bordeaux, with arsenate of lead and Black-Leaf 40, make weapons with which one may confidently face and successfully defeat the most determined onslaught of rose pests.

## XII

## CARE AND FERTILIZATION

THREE things are most necessary during the growing season: protect roses from their enemies, feed and water them heavily, and cultivate them constantly.

As soon as the winter covering has been taken from the beds and the first spring pruning done, some cultivation and fertilization must be given. In leveling the beds, it is well to examine the plants to see if they have settled too deeply in the ground, as old plants are likely to do from continued cultivation and applications of soil and fertilizer. New roses, set out the fall before, may also be too deep if the beds were not fully settled when they were planted. It is wise to make sure that the "bud" is not more than one inch under the normal level of the bed — even with it is better. Plants that are too deep can be elevated by inserting a shovel to its full depth and gently lifting them, tamping earth beneath the shovel as they are raised. This will not disturb all the plant's roots, and if carefully manipulated, will not check those roses which are already starting into growth. On the contrary, it may restore to vigor many plants whose understock is so deeply buried as to be inactive and almost dead, while the rose tries to subsist upon a few threadlike roots which it has thrown out above the bud.

At the same time the alignment and spacing of the plants in the beds should be adjusted, and a gentle leverage with the spade — when the ground is soft, but not when it is gummy — will put the roses in their proper places without lifting and replanting them. Those which seem to be dead, or so badly

injured that their vitality is very much in doubt, ought to be dug up and thrown away, or set in a spare piece of ground to recuperate. New plants should be put in their places, and if the discarded roses had grown in the bed a long time, the soil where they stood should be replaced by fresh.

If the roses have been protected by filling manure in the middle of the bed, the ridges of earth about the plants should be removed from the beds entirely, the manure spread evenly over it, and all the straw, cornstalks, and large, unrotted refuse raked out; then the surface of the bed should be gently gone over with a hoe or fork, turning the manure under.

At the same time an application of bone-meal or wood ashes may be made about each plant, — two heaping trowels of either or one of each — raked in as the bed is leveled. This extra fertilization is not imperative when a large quantity of manure has been used, but it is necessary if there is no surface layer of manure to feed the roots from the top.

Shrub roses and Rugosas should be looked over for evidence of scale, and steps taken to remove it. While scale is not a serious matter, it is unsightly, and in time it manages to weaken the roses afflicted with it and to infect others.

In favorable weather, the rose shoots rapidly lengthen during the early weeks of spring, and a sharp watch should be kept to foresee and prevent damage from late frosts. If the covering removed from the beds is kept handy, it can be quickly replaced when frost threatens, or pieces of burlap may be thrown over the plants.

When the first leaves are fully developed, the campaign must be started against insect and fungus pests. Whatever method is used, it must be started early and followed consistently.

When the flower-buds appear they are often in clusters of three or more. That is the way they are wanted on Polyanthas

and Climbing Roses, but Teas, Hybrid Teas, and Hybrid Perpetuals are much more satisfactory if all or some of the side buds are removed. This is not so murderous a deed as it may seem, because if they are not removed the centre flower will be squeezed between two hard, unopened buds, or buried beneath them as they shoot above it, and it cannot possibly be a good flower. Disbudding seems cruel, and it should be tempered with mercy. Two or three buds may be left on a stem if they are widely spaced, using a conservative judgment and exercising the faculty of looking toward future results. The rose is an enthusiastic plant in spring, and is quite apt to undertake more than it can adequately perform. It needs a little curbing. But with varieties used only for garden decoration, shrubs, bushes, and climbers, disbudding is not worth while, since a mass of flowers and color is wanted and not fine individual blooms.

When color begins to show through the splitting sepals, the plants should be fed again. The very best thing to give them is a liquid made by soaking fresh cow-manure in water. Lacking that, a solution of dried blood, commercial sheep-manure, or some special rose-food may be given. This feeding should be very liberal, giving heavy rations to all but the weakest plants. The old rule is: the stronger the plant the stronger the food, and the weaker the plant the weaker the food. To violate this rule, in the latter case at least, is almost certain to cause trouble. The roses should be fed in the same manner every week or ten days through the early weeks of summer, until they show signs of passing the crest of the first bloom. At that time feeding may be discontinued for a while.

When the impetus of spring has waned and the abundant bloom has passed, the plants usually go to sleep for a short period, taking a well-earned rest. Of course, not all of them cease blooming at once; there are lingerers which provide a

scattering of flowers at that period, and there are exceptions which never rest. But there is a slack period around the middle of summer. It ought not to last more than three weeks, and at the first signs of returning activity the roses may be given a stimulant in the form of one tablespoonful of nitrate of soda to each healthy plant, scattered on the ground beneath it and copiously watered in.

When the new buds show color, feeding with liquid manure should recommence and continue as before. Usually there will be another slack period near the close of summer, and at that time feeding may be stopped entirely for the season, letting the fall bloom come from the richness accumulated during the previous excess-feeding. It does not pay to force the plants too late in the season, lest they go into the winter in a soft, sappy state, conducive to damage by cold and wet.

The problem of fertilization is more or less serious and can be overdone. Beginners should err on the side of frugality; but in much experience I have found many more roses suffering from starvation than from indigestion. I do not believe that any quantity of liquid cow-manure will hurt healthy roses, but I would hesitate to say as much about artificial or chemical manures. There are a few special rose-foods to be had from dealers which are advertised to grow good roses. I have not tried any of them, because I have found that cow-manure, bone-meal, commercial sheep-manure, and nitrate of soda give good results, and I always know what sort of material I am putting into the ground. If commercial rose-foods are obtained from a conscientious manufacturer and used strictly in accordance with his directions, I have no doubt that they are acceptable substitutes for the rather cumbersome rations which I feed my roses; but I am quite sure, if it were necessary to confine feeding operations to dusting a few trowelfuls of some

powder around the bushes once or twice a season, it would not be nearly so interesting as it is to devise methods and means of handling liquid manure and other materials quickly, easily, and in ever-increasing quantities.

The surface of the rose-beds should never be allowed to become hard, and no weed should be allowed to rear its ugly head. And by a weed in a rose-bed I mean any plant except a rose, or the low-growing annual which may be used for edging. The surface must be kept loose and dustlike, if possible, at all times. A good tool for the purpose is a child's toy rake, which slips in and out among the bushes without hooking in the canes; it will save backaches and scratches. The purpose of this constant cultivation is primarily to introduce air into the soil — an element which the roots need as much as the leaves. A secondary purpose is to prevent evaporation of the soil-water, and to keep the earth cool beneath the dust-mulch.

There is a way to avoid a lot of this labor; but I am convinced that substitutes are never quite so good as the real thing, and that in growing roses, as in everything else, one gets out of it in proportion to what he puts in. If, in the spring, the rose-beds are covered with a thick layer of manure, wet down thoroughly, and shielded from the sun by an artificial mulch of grass clippings, peat-moss, or any other suitable material, one might go away and let the roses work out their own salvation. That may be all right, but I doubt it. The layer of manure is good, because continued watering and rainfall take it rapidly into the soil where the plants can use it, but I am dubious about mulches applied so early in the season.

A mulch, as a substitute for working the soil, effects the secondary and defeats the primary purpose of cultivation. Any mulch which is thick enough to prevent evaporation and to insulate the ground from the sun's heat is thick enough to

exclude air from the soil, no matter how porous it may seem. I am not prepared to state that all artificial mulches are bad, but I do reiterate that it is only a more or less satisfactory substitute for honest cultivation. Nevertheless, if the roses have been cultivated properly up to the beginning of their second bloom, which should be around the extreme heats of midsummer, a mulch ought to be applied to the rose-beds, with distinct benefits to both the gardener and the roses at that time.

Watering must be done when the weather is dry, and it must be done liberally. In fact, everything about roses is calculated to instill the habit of generosity. It is useless to tell people not to water roses in the evening; it is almost always most convenient to do it then, and it is often the only opportunity. Early-morning watering is better, but if it must be done at evening, the roses should not be sprayed with the hose; the nozzle ought to be taken off and the water allowed to run upon the beds quietly and for a long time; or they should be watered from a can without wetting the foliage. One should also avoid wetting the leaves during the day when the sun is hot upon them, or when there is a dry wind blowing. All watering must be thorough, and to be of any use at all, it should be equivalent to one inch of rainfall. There are 231 cubic inches to the gallon. Calculate the area of the rose-beds in square inches, and it will be seen that a good many gallons are required, without making allowance for waste upon the paths.

Among the minor jobs of summer is the pleasurable one of cutting the flowers. It is a mistake to let them hang upon the plants after they have faded, or to allow seed to form. Plants which devote energy to seed-production have little left to expend upon new flowers. At least once a week the dead flowers and seed-hips should be clipped from the bushes.

In cutting flowers for vases or to give away, the rule is to

cut each stem as long as possible, leaving two leaves of it upon the plant. This means that from the eyes at the base of those leaves two new shoots will arise, which ought to bear two new flowers. In turn, those stems will be cut back to two leaves each, and so on until the end of the season. In practice it is not always so simple as that. If the canes have been left reasonably long at pruning time, possibly only the upper bud or two will break and produce flowers. In such cases, when the bloom is cut from the upper break it is best to take the entire stem and to cut back the old cane to the next branch below, which is, of course, the bud or flower springing from the second eye from the top. When that flower is cut, it may be taken back to the two leaves according to rule, or the former procedure followed; but if the second flowers are allowed to form and the old shoot has failed to break below them, they should be taken full length and the old cane be cut back to the first promising eye. Otherwise the plant will become cluttered and confused with little twiggy knots of leaves and a mass of sterile canes. With roses of the Pernetiana type, which should be pruned very little, I always follow that method. I do not cut the stem which bears the flower, but the cane from which it sprang, and I cut that cane back to its first eye, forcing it to send out a new bloom from there. By repeating this process every eye on the cane may be made to produce a bloom, and at the end of the season the last shoot from near the base of the old stem provides a new cane for similar service next season. That is the theory, but it does not always work out in practice.

Toward the end of summer, the two-leaf rule may be relaxed and the flowers cut with shorter stems or left on the plant and the hips merely pinched off. It is an advantage to leave well-hardened wood on the plant for winter; the new

canes, which might be forced out by the more drastic cutting, are likely to be soft.

On rare occasions the understock asserts itself by throwing up a shoot or two of its own. The robber shoots differ in appearance from the real rose. The difference is usually in the number and size of the leaflets, but quite often it is an indefinable strangeness or unlikeness which the keen-eyed rose-grower detects at once. A slight pinkish tinge of the stem at or just beneath the surface of the ground is almost a certain sign that the suspicious shoot is a sucker, but one can always make sure by tracing it to its connection with the plant. If it arises from below the "bud" it is most certainly not wanted, and should be pulled out of its socket — not merely cut off. If a sucker is not observed or is foolishly allowed to remain, the stock will devote its energy to the maintenance of its own offspring, and the rose will die.

The names of roses seem outlandish at first but quickly become familiar, and one soon learns to recognize a rose by its name at sight just as with any other friend. Nevertheless, it is not safe to rely upon memory in the garden. It is often necessary to work with roses when they are out of bloom, and one's sense of the location of plants in a rose-bed is very easily confused, especially in the spring. To prevent mistakes and consequent confusion of varieties roses should always be plainly and accurately labeled, by tags attached to small stakes near them. Tags tied upon their branches are too likely to be cut off in pruning, and are difficult to find when the plants are in leaf. The ordinary wooden plant-label, if coated with white lead and written upon with a soft lead pencil, is legible for two years, providing the wire is strong enough to last that long. If a heavy copper wire is used and the labels are dipped in shellac after being written, they will last much longer. Various

metallic labels are available, and celluloid can be used. This makes a good, light-weight tag which does not blacken as most metal and wooden labels do.

A diagram of the rose-beds, drawn roughly to scale, with the locations of the plants and their names carefully noted upon it, is invaluable and should be kept as a part of every garden of more than a dozen bushes.

## XIII

## HERESY IN ROSE-GROWING [1]

LIKE all good heretics, I believe that progress begins in heresy, and that every advance is an assault upon dogma. In rose matters, until quite recently, we have been governed by dogma — the dogma of an inherited tradition — and the teachings of the high priests of the rose in England. With the one exception of Ellwanger's *The Rose*, our American rose-literature, until the past decade, was baptized at English fonts, and its teachings paraphrased the precepts of the British masters. Recent works, while retaining the best of the old, have added much from American experience, and in consequence many methods once thought indispensable are being discarded.

As a heretic, I do not deny all the ancient credo. There is much to which I do subscribe, but many things are so incompatible with experience that I question their validity. Let me set forth at once wherein I am orthodox.

I believe in the superiority of two-year budded plants. Many years of trial, as an inexperienced boy and as a more sophisticated grower of roses, have brought me to the decision that for practical purposes, the one-year or the two-year own-root greenhouse-grown plants are just about worthless. Yet there are qualifications to this. In the warm, moist South, where there is no danger from freezing, there is undoubtedly a field for the own-root potted plants — or rooted cuttings, as they so often are; and farther north, if by chance or careful coddling an own-root plant can be saved through several

[1] Reprinted by permission from the 1925 *American Rose Annual.*

winters until it is grown to full strength and has recovered the vitality lost through its greenhouse heritage, it is usually a good plant and a permanent plant. I have nothing against own-root plants because they are own-roots; it is their weakness, their tenderness, and the length of time it takes to secure results that renders them unsatisfactory.

I believe in cow-manure — with reservations and amplifications hereinafter to be set forth. I believe in good drainage and thorough cultivation without any qualification whatever; I believe in spraying or dusting; but further than this I will not say.

Deep preparation of the soil is the bugbear — whatever that is — of amateur rosarians. It is a clog and a nuisance, a hindrance and an expense. It is also unnecessary. In *The Rose in America*, Dr. McFarland has assailed this doctrine, and I hereby aid and abet him. I plant roses now as I did in the beginning when I knew nothing about rose culture. I plant them with no more preparation than I give an onion bed or a row of potatoes, manured reasonably, spaded, and raked level. I have passed through that period when, after absorbing the wisdom of the authorities, I dug beds three feet deep, put in rocks for drainage, a layer of sod, manure, fat soil, more manure, and the finest obtainable loam, working and forking, stirring and mixing, until it was rich as a plum pudding. Did the roses do any better in that? They did not. Recently, when I moved the roses from such a bed, where they had been seven years, there was not one with roots longer than twelve inches — and why should there be? Those roots had no need to forage wide for sustenance; it was right at hand. In ordinary garden soil I have frequently traced roots three feet each way from a plant.

But is there any advantage in such extended root-growth?

I think there is. The energy put forth, the effort thus forced upon the roots, cannot but be reflected in a healthier, more upstanding, "fighting" top. Where there is no energy and no effort below the surface, be sure there will be none above. Therefore, I say, do not make rose-beds too rich. Roses like the feel of cold, hard clay between their toes. They want something firm to cling to and to work into.

This is contrary to all the authorities? Even so; this is an heretical chapter. Do not think that I stop there, for indeed I do not. Roses do want good food, and lots of it; and my roses get it — not as buried manure to loosen and make the soil spongy, but in solution as a liquid; and I give it to them neat and often, not weak and often as the books say. The color of weak tea? No. I give it to them strong and rank. They like it. They bloom and thrive upon it.

In order to save time, — for my rose-growing has been done under the necessity of taking every short-cut, — this liquid is made as it is used, by placing a shovelful of fresh cow-manure in a bucket. The hose is let run gently into it, and as the bucket fills, it is dipped out and fed to the roses in a little hollow scooped in the soil around them. As the liquid loses color, the manure is replenished. Each rose gets a good half-gallon every fortnight from mid-May until the first of August. At that time feeding is discontinued, to permit the roses to harden up for fall. The blooming goes on, from the stored richness.

But strong, green manure is hard to get, even impossible? Well, no matter. Soak a bag of dried sheep-manure the size of your head in a three-gallon pail of water. Prod it, punch it, and squeeze it until the water is brown. Use that instead.

This feeding produces two secondary results, neither of them harmful. Around the collar of the plant comes a mass of fibrous roots, thick and searching, which use up the food

afforded them. These roots supplement the foragers below which anchor the rose so firmly to the earth. They are a special set of mouths for the plant.

The second result is a rather serious souring of the soil, and heretical or not, I believe roses like sour soil. At least, they like it better than they like a limy soil, either because they resent alkalinity, or because they are harmed by the action of lime in loosening the soil. I am almost convinced, also, that lime in the rose-bed is one cause of roses "blueing."

It has been established that the red and blue colors of flowers are determined by the relative acidity or alkalinity of the cell sap. The agent which produces the color is the same in both cases, but in an alkaline sap it is blue and in an acid sap red, the action apparently being similar to that of litmus paper. Should the sap be nearly neutral, the flowers may be red or blue or both, or the mixtures known as purple and magenta.

A chemist friend made a complex analysis of a rose for me at one time, and he told me that a red rose was somewhat acid in solution. He gave me figures to prove it, based on titration with caustic soda; but I have a poor memory for decimals and percentages. Further, I believe it would be extremely difficult to influence the character of a plant's cell-sap by feeding it acids or alkalies, but I do know that I can materially increase the blueness of Veilchenblau by dosing it plentifully with lime in the spring; and that red roses placed in weak alkaline solutions, even in salt water, turn purple with great speed.

I do not believe in full sunlight for roses. I think they would thrive in a ginseng shed. No rose can hold itself undaunted through the blazing summer light and heat of most of the rose-growing sections of the United States, in complete contrast

to the humid air and softer sunlight of the British Isles, from which we have received most of our rose instruction. I wish I could arrange a garden where the midsummer sun would shine only from ten A.M. until two P.M. and after six P.M. This morning sun is an abominable nuisance. The opening buds are driven wide; delicate yellow tints are bleached to white; dark reds are scorched brown or burned black. The afternoon sun is white and deadly. The big-petaled roses grow limp and droop; the soil bakes hard and roasts their roots; and the leaves go dry and thirsty. Even at the expense of tree roots, shade is well worth while; but it is better, naturally, to avoid the competition and yet get the shade.

Still, there is too much fuss made about the damage likely to be done by tree roots. Let no one be dismayed because he must plant roses near a tree. If you do not bury two tons of manure in the rose-bed, there will be no inducement for the tree roots to come there for it. Once I grew a fine lot of roses directly under a low-branched plum tree, so low that I had to stoop to get under. One of my best beds is in the full feeding-ground of a Carolina poplar; and there is no worse thief than that arboreal weed.

Either spraying or dusting is obligatory. I dislike spraying less. It is easier, less wasteful of materials, and it can be done at any time of the day. I have no doubt that Bordeaux mixture will help the plants materially to resist black-spot, and that lead arsenate, incorporated with the Bordeaux, will destroy foliage-eating pests. I doubt if any spraying will prevent mildew if conditions are right for it to appear; but I know that sulphur or sodium bicarbonate will rid the plants of it when it is ready to go. I believe that aphids can be controlled by nicotine solutions, but that the rose-bug will yield to nothing.

I do not believe in mulching, except as involved in the dusty layer of soil, kept constantly loose by stirrings and scratchings with the hoe and rake. Mulches are generally unsavory and unsightly, or expensive. In all cases they are a nuisance. I prefer planting roses closer together, — fifteen inches apart or even less, — so that they mingle their branches and shade their own bottoms. A rose-bed should be a bed of roses, not an expanse of grass-clippings, peat-moss, or even Brussels carpet, as one enthusiast has recommended, dotted with roses; it should be covered with rose bushes.

I do not believe in the deep planting which has been so persistently urged to prevent suckers. Observation of the excellent plants in nurserymen's fields, where the "bud" is usually *above the ground*, actual trial by a skeptical friend, and plain common-sense induce me to believe that roses do best planted at the depth at which they normally grow. Surely, a plant ought to know where it wants its roots — at least, it is more logical to follow the lead of the plant than some human theory.

I do not believe in close pruning. It is a waste, and a detriment to the plant. If the top is too severely reduced, there may be enough nourishment available in the roots before they die to produce one or two very splendid flowers, but they eventually perish to balance the mutilation of the top. We do not grow roses for the show box in America. We grow them to illumine and perfume our gardens and to fill our vases. Unless frozen back, no rose should be denuded of more than half its branches in the spring. That is a general statement. The pruning requirements of the different classes vary greatly, and in each class individuals demand individual treatment. It is a matter of knowing the roses and understanding them. By all means take out old and weak wood, but err on the side of liberality; leave plenty of wood, good lengths of new and

healthy canes. The reason is, in brief, that the growth and productivity of the plant depend upon its root action; root action depends largely upon the foliage, to sustain and transform the root secretions; the quantity of foliage is dependent upon the amount of wood upon the bush. Reduce the wood, you reduce foliage, root action, growth, and productivity. The leaves are the lungs and stomach of the plant. How can you expect a short-winded and dyspeptic rose to do its duty by you?

There is nothing mysterious or sacred about growing roses. Treat them with the same common-sense that you show toward a row of cabbages, and you will have good roses. The art and mystery of growing better roses is the art of knowing when to break the rules. No one can advise another person as to that, but there is no haloed tradition that cannot safely be violated, and there is no law that cannot, at times, be broken with profit.